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Steven J. Arnold

1965 - 66

Catalogue

#134 - 604

Arnold, S.J.
1965

CATALOG

1/2 mi. NW Tehachapi, Kern Co., Calif

30 April 1965

134 *Lampropeltis getulus californiae* - boylii phase

1.5 mi. SW Cabazon, Riverside Co., Calif.

30 April 1965

10 R.D. Sage) 135

Hyla californiae

11 R.D. Sage) 136

" "

109 R.D. Sage) 137

Bufo boreas

1 mi. N mouth Whitewater Canyon, Riverside Co., Calif.

1 May 1965

13 R.D. Sage) 138

Uta stansburiana

14 R.D. Sage) 139

" "

3 ± 1 mi. N mouth Whitewater Canyon, Riverside Co., Calif.

1 May 1965

140 *Arizona elegans* (juv.)

141 *Lampropeltis getulus californiae* - boylii phase

2 mi. WSW mouth Whitewater Canyon, Riverside Co., Calif.

1 May 1965

142 *Coleonyx variegatus*

Arnold, S.J.

1965

CATALOG

Palm Springs, Riverside Co., Calif

1 May 1965

143 Uta graciosa

1 mi. N.W Victorville, San Bernadino Co., Calif.

2 May 1965

144 Sceloporus occidentalis

145 " "

146 Xantusia vigilis

147 " "

1.5 mi. SW Cabazon, Riverside Co., Calif.

30 April 1965

12 R.D.S) 148 Crotalus ruber

6 mi. N Calif. Hwy 10 on Yucca Valley Rd., Riverside Co., Calif.

1 May 1965

to J. LaPointe) 149 Lichanura r. roseotusca

Whitewater Canyon, Riverside Co., Calif.

1 May 1965

to J. LaPointe) 150 Masticophis flagellum

35 " " , 151 Sauromalus obesus (juv.)

386 " ") 152 " " "

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2 mi. WSW mouth Whitewater Canyon, Riverside Co., Calif.

1 May 1965

52 J. LaPointe)	153	Callisaurus draconoides
53 ")	154	" "
54 ")	155	" "
55 ")	156	" "
56 ")	157	" "
57 ")	158	" "
(358 ")	159	" "
(359 ")	160	" Uma " "
60 ")	161	Uma
61 ")	162	Phrynosoma platyrhinos
362 ")	163	" "
63 ")	164	Cnemidophorus tigris

Chino Canyon, Palm Springs, Riverside Co., Calif.

1 May 1965

364 J. LaPointe)	165	Crotalus ruber
65)	166	Crotalus mitchelli
66)	167	Sceloporus orcutti
67)	168	Cnemidophorus tigris
368)	169	Uta stansburiana
569)	170	Uta mearnsi
370)	171	" "

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CATALOG

Pisgah Crater Lava Flow, San Bernardino Co., Calif.

2 May 1965

- 172 *Cnemidophorus tigris*
173 " "
#174 " "

3 mi. E. of west end of Pisgah Crater Lava Flow,
San Bernardino Co., Calif.

2 May 1965

- 175 *Callisaurus draconoides*
176 " "

1.2 mi. W town of Bodega Bay, Sonoma Co., Calif.

8 May 1965

- 177 *Thamnophis* _____

James Creek, at Hwy. 20, 450', Mendocino Co., Calif.

7 March 1965

- 178 *Dicamptodon eusatus*

1.5 mi. ESE Cabazon, Riverside Co., Calif.

12 June 1965

- 179 *Hyla californae*
180 " "
181 " " w/ parasites (?)

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KEY 11.8cm - .6 (7.6cm)
↑ ↑ ↑
total length (snout to tip tail) snout-vent length length regenerated tail

Santa Rita Mtns.

Junction Madera Canyon Rd. + Florida Canyon, Pima Co., Arizona,
14 June 1965

- 182 Cnemidophorus ~~sacchi~~
skin + 183 Phrynosoma solare ♀ 78.7 gm., 14.2cm (10.6cm)
skele.

Madera Canyon Rd. at base of Santa Rita Mtns., Pima Co.,
Arizona, 14 June 1965

- skin + 184 Phrynosoma solare ♂ 39.2 gm., 12.7cm (9.2cm)
skele.

Madera Canyon, Santa Rita Mtns., Santa Cruz Co., Arizona
14 June 1965

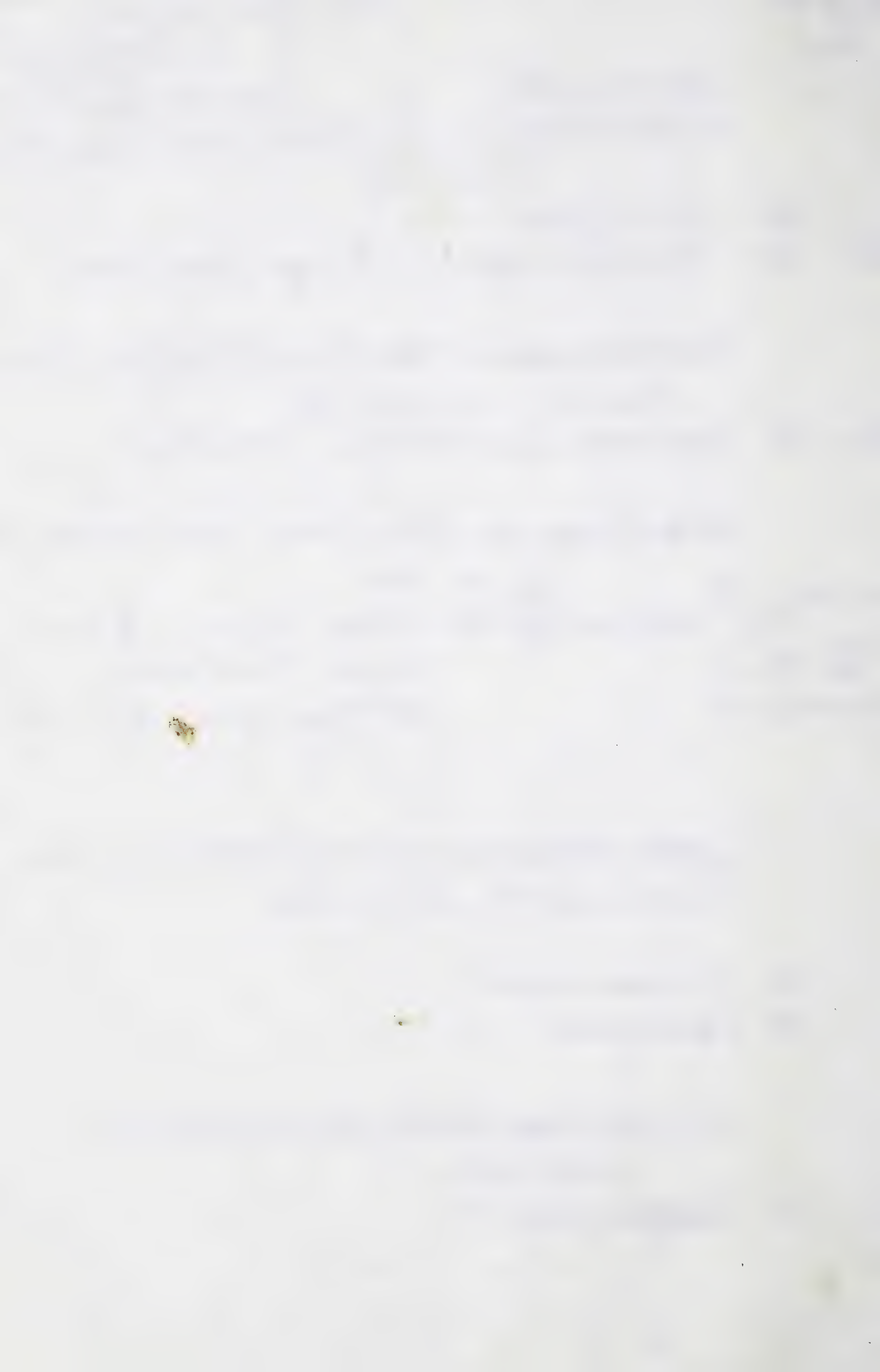
- skin + skele. 185 ♂ Sceloporus ~~jarrovi~~ ^{JARROVI} 19.4 gm., 15.7cm - (8.0cm)
8 skin + 186 ♀ " " 10.2 gm., 14.5cm (6.6cm)
skele. 187 ♂ " " 14.5 gm., 11.8cm - .6 (7.6cm)
skin + skele.

junction Madera Canyon Road and Procter Ranch Road,
Pima Co., Arizona, 14 June 1965

- 188 35 anuran tadpoles
189 Cnemidophorus

15 mi. NW Meoqui, Chihuahua, Mexico via Mex. 45
16 June 1965

- 190 Sceloporus ~~magister~~



1965

CATALOG

- 14 mi. NW Meoqui, Chihuahua, Mexico via Mex. 45
16 June 1965
- 191 DOR Masticophis ~~hapellum~~
Camargo
2 mi. NW Ciudad Camargo, Chihuahua, Mexico via Mex. 45
16 June 1965
- 192 DOR Thamnophis ~~cyrtopis~~
20 mi. ± 5 mi. SE Ciudad Camargo, Chihuahua, Mexico
17 June 1965
- 193 Arizona elegans DOR
6 mi. E. Matamoros, Coahuila, Mexico
17 June 1965
- 194 Uma exul 8.2 gm, 150 mm (67 mm.)
- 195 " " 8.2 gm, 127 mm. (65 mm.)
- 196 " " 22.6 gm, 165 mm. + 38 mm (91 mm.); 38.2° L, 36.4° S
- 197 " " 11.0 gm., 162 mm. (70 mm.)
- 198 " " 16.5 gm., 138 + (82 mm.)
- 199 " " 14.7 gm., 179 mm. (80 mm.)
- 200 " " 30.0 gm., 220 mm (98 mm.), 38° L, 36.4° S
- 201 " " 8.6 gm., 134 mm. + 18 mm (65 mm.) 38.4° L
- 202 " " 9.3 gm., 156 mm. (20 mm.)
- 203 " " 27.1 gm., 218 mm. (99 mm.) ♂

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Gm. E. Matamoros, Coahuila, Mexico, 17 June 1965

- ~~203~~ ~~Cnemidophorus~~ ~~18.0 gm., 310 mm. (88 mm.)~~
- 204 *Crotaphytus wislizeni* 32.9 gm., 312 mm. (101 mm.) ♂
- 205 " " 34.0 gm., 313 mm (105 mm.) ♂
- 206 *Phrynosoma modestum* ♂, 4.3 gm., 73 mm. (42 mm.)
- 207 *Cnemidophorus* 18.0 gm., 310 mm. (88 mm.)

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CATALOGUE

3 mi. N.N.W. San Roberto, Nuevo Leon, Mexico; elev.

5700' ± 100', 18 June 1965

+ 208 *Phrynosoma* 110 mm (73 mm.)

♂

12 mi. E. Queretaro, Queretaro, Mexico, 19 June 1965

+ 209 *Sceloporus*

133 mm. (58 mm.)

210

"

104 mm. (47 mm.)

211 *Rana pipiens*

26 mi. E. and 2 mi. S. Mexico City, Mexico, Mexico;

elev. 10,200' ± 50', 19 June 1965

+ 212 *Plethodontid*

83 mm. (40 mm.)

+ 213 *Sceloporus*

110 mm. (53 mm.)

4.3 mi. WNW Tamazulapam, Oaxaca, Mexico,

19 June

+ 214 *Leptodeira*-like snake

402 mm. (348 mm.)

1 mi. S.E. Tamazulapam, Oaxaca, Mexico

20 June

+ 215 ~~Scelop.~~ *Scelop.* or *Uta*

125 mm. (52 mm.)

♂

1.1 mi. W. Coatepeque, Guatemala, 22 June 1965

216 (caecilian) *Erythronotus m. mexicanus*

DOR

217

(caecilian)

"

"

"

DOR

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1965

CATALOG

- 5.5 mi. w. Coatepeque, Guatemala, 22 June 1965
218 (caecilian) Gymnophis m. mexicanus DOR
- 8.8 mi. w. Coatepeque, Guatemala, 22 June 1965
219 (hylid) Smilisca baudini DOR
220 Bufo marinus DOR
- 3.9 mi. w. Coatepeque, Guatemala, 22 June 1965
221 Leptodeira 573mm. (471mm.) DOR ♂
- 4.7 mi. w. Coatepeque, Guatemala, 22 June 1965
222 Imantodes gemmistratus 860mm. (563mm.) DOR ♂
- 5.2 mi. w. Coatepeque, Guatemala, 22 June 1965
223 Rana pipiens DOR
- Coatepeque, Guatemala, 22 June 1965
224 (juvenile Basiliscus vittatus) 283mm. (50mm.)
225 (hylid) Smilisca baudini ♂
226 Hyla sabbleri ♂
227 " " ♂
- 1.4 mi. & w. Coatepeque, Guatemala, 22 June 1965
228 Rana pipiens DOR ♀

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1965

CATALOG

~~229~~

2 ± 1 mi. ENE Paraiso via Hwy 10, Cartago Prov., Costa Rica

26 June 1965

229 ♀ *Aeolis t. lemniscatus* 104 mm. (45 mm.)

intermedius

Inter-American Institute of Agriculture, Turrialba,
Cartago Prov., Costa Rica

26 June 1965

230 ♂ *Aeolis* _____ 122 mm. (37 mm.)

(gular fan white w/ ^{base} yellow-orange semicircle 3 mm in dia.)

231 *Bufo haematiticus*

232 " "

233 " " juv.

234 ~~234~~ " " "

235 ~~235~~ " " "

236 ~~236~~ _____

237 *Rana palmarum*

238 *Hyla* ~~platydes~~

239 " "

240 " "

241 " "

242 " "

♂
♂
♂
♂
♂

Turrialba, Cartago Prov., Costa Rica, 26 June 1965

243 *Hyla* ~~classica~~

♂

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1965

CATALOG

12 \pm 5 mi. W.N.W. Acajutla, El Salvador, 23 June 1965
244 DOR *Conophis* ~~lividus~~

30 \pm 10 mi. N.E. Managua, Nicaragua, 24 June 1965
245 *Trimorphodon* ~~bisulcatus~~ 1400mm (1166mm.)

Inter-American Institute of Agriculture, ^{Turrialba, Cartago,} Costa Rica,
246 *Bufo haematiticus* (60mm.) 27 June 1965

247 *Geophis* sp. nova 45mm. (45mm.) plethodontid

248 " " " 57mm. (33mm.) "

^{Reventazón InterAmerican}
ravine of the Rio ~~Reventazón~~, Institute of Sciences and
Agriculture, Turrialba, Cartago Prov., Costa Rica, 27 June 1965

249 *Anolis* ~~humilis~~ (31mm. s-v) ♂

250 *Geophis* ~~hoffmanni~~ 175mm. (1574mm.) ♀

251 *Tephrasia* ^{vayellii} 29 June 1965
Barisia monticola (73mm s-v) ♂

4mi. W.N.W. junction Hwys 1 & 17 via Hwy 1, Puntarenas Prov.,
Costa Rica 3 July 1965

formalin

252 *Onychorhynchus mexicanus* 20.2 gm.

" 253 *Oncostoma cinereigulare* 7.4 gm.

" 254 *Phaethornis longuemareus* 2.7 gm.

species sighted 4 mi. WNW junction Hwy. 1 and 17, via Hwy 1, Puntarenas Prov., Costa Rica

[Longtailed Manakin (Chiroxipha linearis fastuosus)]

3 July 1965

Thry [Thryothorus sp. (2)]

[Longtailed Hermit (Phaethornis superciliosus)]

Longuemare's Hermit (Phaethornis longuemareus saturatus)

Pigmy Kingfisher (Cubroceryle alcyon)

- [sighted by Sage, F. Arnold or Caceres]

Royal Flycatcher (Onychorhynchus mexicanus)

Bent-billed Flycatcher (Oncostoma cinereigulare)

Blk. Vultures (Coragyps atratus)

Blue-blk. grassquit (Volatinia jacarina)

White-collared Seedeater (Sporophila torqueola)

Brown Jay (Psilorhinus morio)

Lineated Woodpecker (Dryocopus lineatus)

[Gray-headed Greenlet (Uroophila decurtatus)]

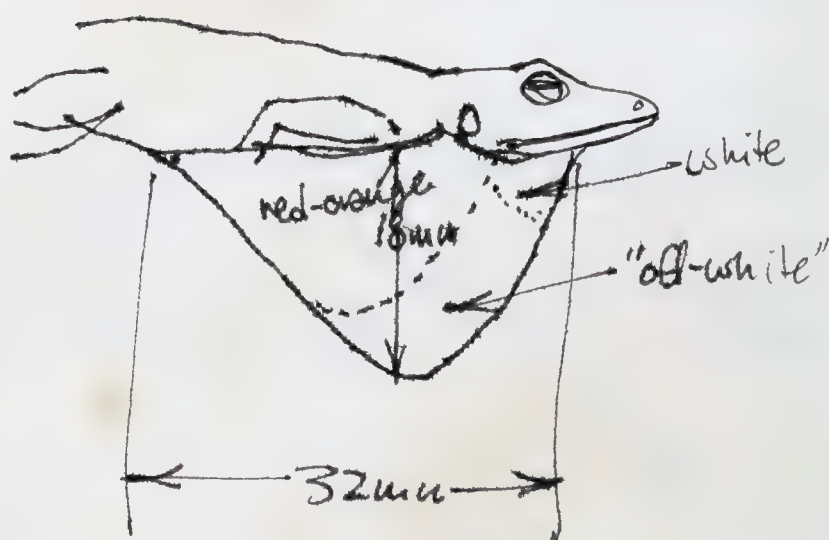
Bridges Antshrike (Thamnophrus bridgesi)

Sciurus sp.

[Dendrocolaptids (3 species)]

♂

270 S.S. Arnold



Andros

1965

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4mi. WNW junction Hwy. 1 + 17 via Hwy 1, Puntarenas Prov.

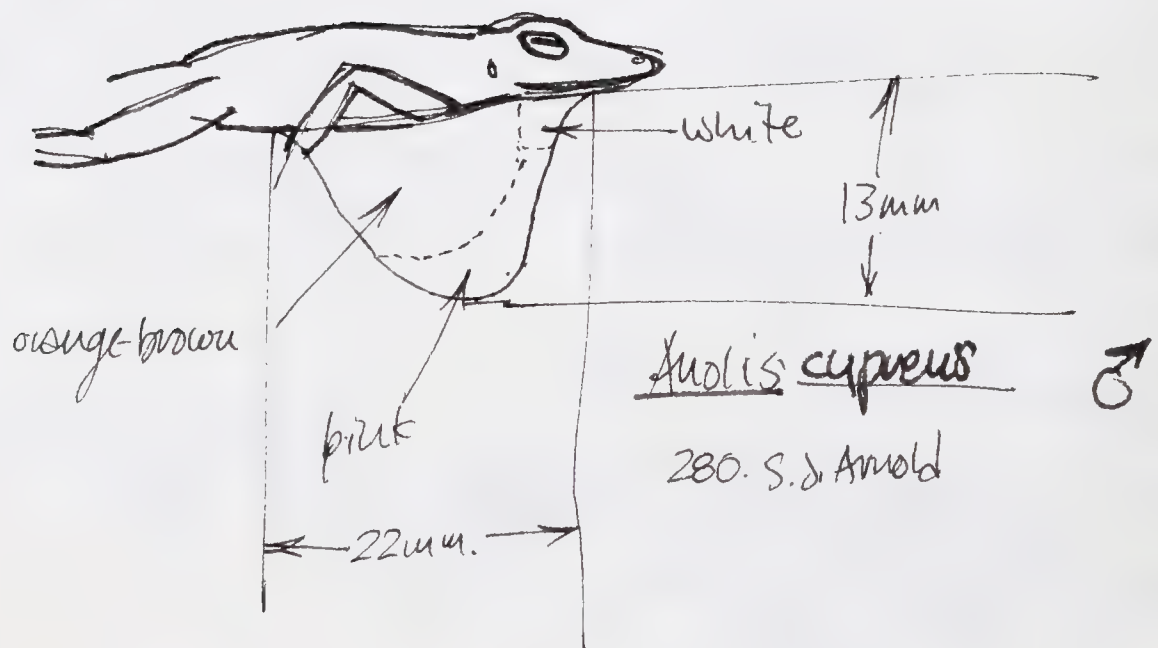
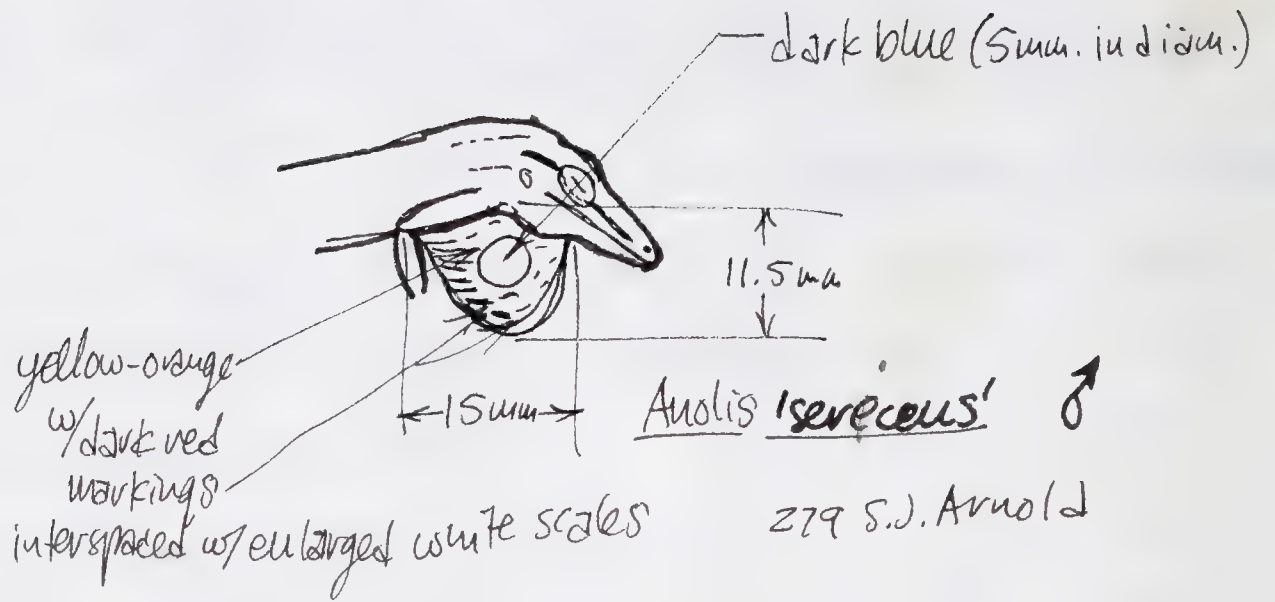
Costa Rica 3 July 1965

2 RPS = 255

malin	256	<u>Thamnophilus bridgesi</u>		
"	257	<u>Artibeus cinereus</u>	15.8 gm	♀
"	258	" "	11.5 gm.	♂
"	259	" "	14.2 gm.	♀
"	260	" "	15.9 gm.	♀
	261	<u>Ctenosaurus similis</u>	16.1 gm.	♀
	262	<u>Basileiscus</u>	4	
	263	"	39 mm (150 mm.)	100.7 gm. ♀
	264	"	367 mm (109 mm.)	36.7 gm ♀
	265	"	325 mm. (¹⁰⁴ 64 mm.)	32.0 gm ♀
	266	"	235 mm (70 mm.)	10.2 gm ♀
	267	"	169 mm. (51 mm.)	3.4 gm.
	268	<u>Ameiva undulata</u>	339 mm. (107 mm.)	34.9 gm ♀
	269	"	273 mm (96 mm.)	26.1 gm ♀
	270	"	317 mm (98 mm.)	27.0 gm ♀
sko	271	<u>Gonatodes fuscus</u>		
	272	<u>Lepidoblepharis xanthostigma</u>	49 mm. (32 mm.)	0.9 gm.
	273	<u>Anolis</u>	131 mm. (44 mm.)	2.0 gm ♂

Playas del Coco, Guacacaste Prov., Costa Rica, 9 July 1965

271	<u>Cnemidophorus</u>	146 mm. (43 mm.)	2.0 gm	juv.
272		244 mm. (76 mm.)	11.3 gm.	♀
273		215 mm. (65 mm.)	8.3 gm	♀
274		263 mm. (76 mm.)	13.9 gm	♂
275		281 mm. (82 mm.)	16.7 gm	♂
276		277 mm. (80 mm.)	17.0 gm	♂
277		177 mm. (53 mm.)	4.6 gm	♀
278	<u>Ctenosaurus similis</u>	256 mm. (70 mm.)	10.3 gm	juv.



CATALOG

Playas del Coco, Guanacaste Prov., Costa Rica 8 July 1965

- 279 Anolis sericeus 145mm. (45mm.) 1.5gm. ♂
 280 Anolis cupreus 132mm. (45mm.) 1.5gm. ♂
 281 Sceloporus variabilis 180mm. (68mm.) 11.9gm. ♂
 282 82mm. (39mm.) 1.7gm. ♂

Playas del Coco, Guanacaste Prov., Costa Rica, 9 July 1965

- 283 Ctenosaurus similis 280mm. (85mm.) 16.2gm. juv.
 formalin 284 Aimophila ruticaudata 38.9gm.

Playas del Coco, Guanacaste Prov., Costa Rica, 10 July 1965

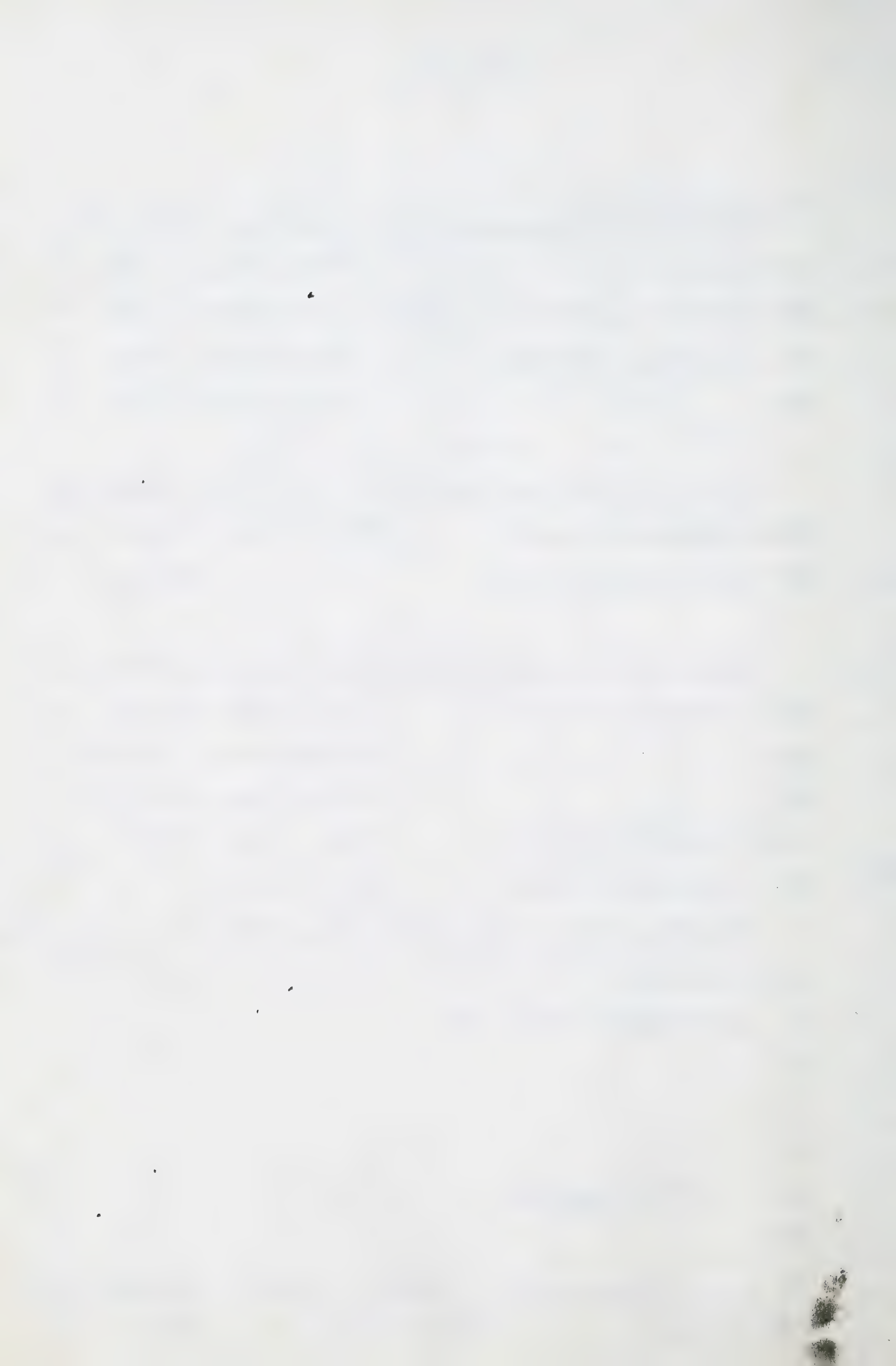
- 285 Ctenosaurus similis 245mm. (72mm.) 10.4gm. juv.
 286 " " 554mm. (200mm.) 282.8gm ♀
 287 " " 574mm. (180mm.) 177.5gm ♀
 288 Sceloporus variabilis 110mm. (42mm.) 2.5gm. juv.
 skin & skeleton 289 Ctenosaurus similis 665mm. (365mm.) ♀

Playas del Coco, Guanacaste Prov., Costa Rica, 11 July 1965

- 290 Masticophis lateralis 2122mm. (1575mm.) ♂
 291 Ctenosaurus similis juv.
 292 " " "
 293 " " "
 294 " " "
 295 Anolis cupreus ♂
 296 " " ♀

Playas del Coco, Guanacaste Prov., Costa Rica 12 July 1965

- 298 Ameiva 145mm. + (77mm.) 11.4gm. ♀



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1965

CATALOG

Playas del Coco, Guanacaste Prov., Costa Rica, 13 July 1965

299	13.3 gm. ♂
300	11.8 gm. ♂ (testicles inconspicuous)
301	12.0 gm. ♂
302	11.4 gm. ♂
303	12.0 gm. ♂
304	11.8 gm. ♂
305	12.3 gm. ♂
306	12.5 gm. ♂
307	11.1 gm. ♂
308	12.2 gm. ♂
309	12.5 gm. ♂
310	12.5 gm. ♂
311	11.4 gm. ♂
312	12.2 gm. ♂
313	12.4 gm. ♂
314	12.1 gm. ♂
315	12.5 gm. ♂
316	13.2 gm. ♂
317	12.4 gm. ♂
318	11.1 gm. ♂ testicles scrotum
319	10.9 gm ♂ (testes inconspicuous)
320	11.6 gm. ♂
321	12.0 gm. ♂
322	12.2 gm. ♂
323	12.7 gm. ♂
324	11.7 gm. ♀

Arnold, Steven J.

CATALOG

1965

Playas del Coco, Guanacaste Prov., Costa Rica, 13 July 1965

325. 12.6 gm. ♀
326. 12.6 gm. ♀
~~327~~

Playas del Coco, Guanacaste Prov., Costa Rica, 14 July 1965

- 327 Anolis 145 mm. (45 mm.) ♀

(sm. throat fan w/ blue spot surrounded distally w/ orange; appears to be ♀ of species represented by SJA-279 ♂) taken in ~~same~~ tree (Pellonix legeri)

Playas del Coco, Guanacaste Prov., Costa Rica, 15 July 1965

- 328 Cnemidophorus deppii 228 mm. (82 mm.) 15.1 gm. ♂ Skind.
329 " 238 mm. (74 mm.) 10.7 gm. ♂ "
330 " 219 mm. (72 mm.) 9.0 gm. ♂ ♀ "
331 " 287 mm. (82 mm.) 16.5 gm. ♂ "
332 211 mm. + (82 mm.) 14.1 gm. ♂ "
333 272 mm. (82 mm.) 15.0 gm. ♂ "
334 Ameiva undulata 295 mm. (90 mm.) 23.1 gm. ♂ "
335 Sceloporus variabilis 166 mm. (72 mm.) 13.9 gm. ♂ "
(P.T. 6 mm. x 5 mm.; L.T. 6 mm. x 4 mm.) ~~48~~
336 " " 95 mm. + (60 mm.) 8.6 gm. ♀ "
(S.lg. ova; L.O. 13 x 7 mm., 13 x 7 mm.; P.O. 13 x 6 mm., 13 x 7 mm., 5 ruptured to shot)
337 " 158 mm. (68 mm.) 13.7 gm. ♂ "
(RT. 6 mm. x 4 mm.; L.T. 5 mm. x 5 mm.)
338 " " 141 mm. (61 mm.) 7.8 gm. ♀
339 " " 141 mm. (58 mm.) 8.4 gm. ♀
340 " " 57 mm. (25 mm.) 0.4 gm. ♀
341 Anolis 102 mm. (42 mm.) 1.5 gm. ♂

(throat fan same as 280)

0.6 km. S. Bagaces, Guanacaste Prov., Costa Rica, 16 July 1965

- 342 Basiliscus 549 mm. (163 mm.) 168.6 gm. ♀
(P.O. (6 ova), 18 x 11 mm., 20 x 12 mm., 19 x 11 mm., [18 x 13 mm., 16 x 13 mm.], 20 x 13 mm.,
L.O. (5 ova) 21 x 12 mm., 20 x 13 mm., [20 x 12 mm., 15 x 12 mm.], 21 x 12 mm.)
Stomach contents = 2 lg. upst. larvae; 2 small beetles.

old, Skelton J.
1965

CATALOG

D. margaritifera

16 July 0.6 km. S. Bagaces, Guanacaste Prov., Costa Rica

- | | | | | |
|-----|-----------------------|-----------------|---------|---|
| 343 | <u>Drymobius</u> | 894mm. (570mm.) | 83.7gm. | ♂ |
| 344 | <u>Anolis cupreus</u> | 130mm. (46mm.) | 2.3gm | ♂ |
| 345 | " " | 123mm. (44mm.) | 2.0gm | ♂ |
| 346 | <u>Rana</u> | | 2.4gm | |

17 July 2.6 km. S.S.E. Las Cañas via Hwy. 1, Guanacaste Prov., Costa Rica

- | | | | | |
|-----|-----------------------|------------------|--------|---|
| 347 | <u>Anolis cupreus</u> | 123mm. (41mm.) | 1.3gm. | ♂ |
| 348 | <u>Anolis cupreus</u> | 100mm. + (40mm.) | 1.6gm. | ♀ |

21 July San Ysidro de General, San Jose Prov., elev. 703m., Costa Rica

- | | | | | |
|-----|---------------|------------------|-------|---|
| 349 | <u>Anolis</u> | 65mm. + (39mm.) | 1.0gm | ♂ |
| 350 | <u>Anolis</u> | " 138mm. (43mm.) | 1.7gm | ♀ |

23 July 1mi. E.S.E. junction Rio Cañas and Hwy. 2 via Hwy. 2, Puntarenas Prov., Costa Rica

- | | | | | |
|-----|---------------|----------------|--------|---|
| 351 | <u>Ameiva</u> | 213mm. (69mm.) | 9.1 gm | ♀ |
| 352 | (skink) | 175mm. (60mm.) | 6.1gm | ♂ |

23 July Buenos Aires, Puntarenas Prov., Costa Rica

- | | | | | |
|-----|--|--------------------|---------|---|
| 353 | | (L.T. 3mm. x 1mm.) | 33.1gm. | ♂ |
|-----|--|--------------------|---------|---|

25 July Golfito, Puntarenas Prov., Costa Rica

- | | | | | |
|-----|--|---------------------------|--|---|
| 354 | | 48mm. (28mm.) | | ♀ |
| | | (tail may be regenerated) | | ♀ |



Arnold, Steven J.
1965

CATALOG

25 July Eofito, Puntarenas Prov., Costa Rica

355	Anolis	103mm. (38mm.)	1.3gm.	♀
356	"	117mm. (38mm.)	1.2gm.	♀

25 July Buenos Aires, Puntarenas Prov., Costa Rica

357	<i>Spizella socialis</i>		8.7gm.	♂
-----	--------------------------	--	--------	---

25 July 19 mi. E.N.E. Palmar Sur, Puntarenas Prov., Costa Rica

358	<i>Protonotaria jugularis</i>	(P.T. 4mm. x 2mm.)	59.8gm	♂
-----	-------------------------------	--------------------	--------	---

26 July 1 mi. S. Villa Mills, Cerro de la Muerte^e, 8500', San Jose Prov., Costa Rica

359	<i>Sceloporus</i>	127mm. (39mm.)	4.0gm.	
360	"	128mm. (61mm.)	4.1gm.	
361	"	115mm. (57mm.)	4.4gm.	
362	"	127mm. (62mm.)	5.9gm.	
363	"	115mm. (53mm.)	2.8gm.	
364	"	101mm. (51mm.)	2.4gm.	
365	"	124mm. (59mm.)	2.8gm.	
366	"	115mm. (55mm.)	3.2gm.	
367	"	128mm. (56mm.)	3.8gm.	
368	"	124mm. (61mm.)	4.4gm.	
369	"	112mm. (58mm.)	3.2gm.	
370	"	98mm. (51mm.)	2.3gm.	
371	"	131mm. (66mm.)	6.2gm.	
372	"	112mm. (54mm.)	3.5gm.	

Arnold, Steven).
1965

CATALOG

26 July 1 mi. S. Villa Mills, Cerro de la Muerte, 8500', San Jose Prov., Costa
Rica

373	subpal	142mm. (71mm.) 7.2gm.
374	"	115mm. (57mm.) 3.7gm.
375	"	95mm. (57mm.) 3.2gm.
376	"	115mm. (56mm.) 3.4gm.
377	"	109mm. (57mm.) 3.5gm.
378	"	101mm. (50mm.) 3.4gm.
379	"	106mm. (52mm.) 2.6gm.
380	"	101mm. (55mm.) 3.5gm.
381	"	104mm. (51mm.) 2.8gm.
382	"	108mm. (54mm.) 2.9gm.
383	"	104mm. (52mm.) 3.1gm.
384	"	143mm. (67mm.) 3.5gm.
385	"	125mm. (66mm.) 4.7gm.
386	"	105mm. (57mm.) 3.5gm.
387	"	126mm. (62mm.) 4.5gm.
388	"	100mm. (50mm.) 2.6gm.
389	"	112mm. (58mm.) 3.9gm.
390	"	125mm. (61mm.) 4.0gm.
391	"	107mm. (53mm.) 3.7gm.
392	"	73mm. (49mm.) 2.8gm.
393	"	108mm. (54mm.) 3.0gm.
394	"	101mm. (52mm.) 2.8gm.
395	"	126mm. (59mm.) 4.2gm.
396	"	120mm. (60mm.) 4.7gm.

Arnold, Steven J.
1965

CATALOG

26 July 1 mi. S. Villaluis, Cerro de la Muerte, 8500', San Jose Prov.,

Costa Rica

397	<i>Myrmica</i>	80mm. (43mm.)	2.0 gm.
398	"	51mm. + (51mm.)	2.5 gm.
399	"	116mm. (55mm.)	3.4 gm.
400	"	88mm. (46mm.)	2.4 gm.
401	"	79mm. (43mm.)	2.4 gm.
402	"	110mm. (56mm.)	3.5 gm.
403	"	126mm. (58mm.)	3.9 gm.
404	"	135mm. (63mm.)	5.4 gm.
405	"	123mm. (62mm.)	4.6 gm.
406	"	125mm. (60mm.)	5.4 gm.
407	"	95mm. (50mm.)	3.0 gm.
408	"	94mm. (55mm.)	3.2 gm.
409	"	81mm. (46mm.)	2.3 gm.
410	"	125mm. (61mm.)	3.7 gm.
411	"	99mm. (53mm.)	3.1 gm.
412	"	135mm. (72mm.)	7.0 gm.
413	"	106mm. (51mm.)	2.6 gm.
414	"	98mm. (51mm.)	2.7 gm.
415	"	121mm. (59mm.)	3.9 gm.
416	"	86mm. (45mm.)	2.4 gm.
417	"	115mm. (60mm.)	4.5 gm.
418	"	109mm. (60mm.)	3.9 gm.
419	"	98mm. (51mm.)	2.6 gm.
420	"	140mm. (65mm.)	4.3 gm.
421	"	115mm. (58mm.)	3.4 gm.



Robert Stevan J.
1965

CATALOG

26 July 1 mi. S. Villa Mills, Cerro de la Muerte, 8500', San Jose Prov.,
Costa Rica

422	<i>Leptodeira subpallens</i>	102mm. (57mm.)	5.0gm.	
423	"	94mm. (50mm.)	2.5gm.	
424	"	124mm. (61mm.)	4.8gm.	
425	"	95mm. (53mm.)	2.5gm.	
426	"	73mm. (39mm.)	1.7gm.	
427	"	53mm. (31mm.)	1.0gm.	
428	"	57mm. (32mm.)	1.1gm.	
429	"	68mm. (39mm.)	1.4gm.	
430	"	84mm. (47mm.)	2.2gm.	
431	"	50 60mm. (29mm.)	1.0gm.	
432	"	48mm. (29mm.)	1.0gm.	
433	<i>Sceloporus malachiticus</i>	88mm. (40mm.)	3.1gm.	juv.
434	"	73mm. (35mm.)	1.9gm.	juv.
435	"	144mm. (79mm.)	14.2gm.	♀
436	"	149mm ⁺ . (78mm.)	14.7gm.	♀

31 July 5.5 km. S.E. Desamparados, 1350m., San Jose Prov., Costa Rica

437	<i>Sceloporus malachiticus</i>	150mm. (67mm.)	10.5gm.	♂
438	"	150mm. (68mm.)	10.6gm.	♂
439	"	163mm. (78mm.)	16.7gm.	♀
440	<i>Leptodeira maculata</i>	320mm. (245mm.)	6.3gm.	♀

441	<i>Bufo marinus</i>	91mm.	76.1gm.	
442	<i>Bufo marinus</i>	80mm.	52.4gm.	

2 August 2 mi. N.E. Villa Colon, San Jose Prov., Costa Rica

443	<i>Sceloporus malachiticus</i>	163mm ⁺ . (82mm.)	20.8gm.	♀
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add, Stead.
1965

CATALOG

2 August 2mi. N.E. Villa Colon, San Jose Prov., Costa Rica

444 *Gymnophthalmus* 98mm. (45mm.) 1.5gm. ♀
spinosus

3 August Patarrá, 7km. S.E. San Jose, San Jose Prov., elev. 1200m.,
Costa Rica

445 *Anolis* orange-brown dorsal stripe 87mm. + (41mm.) 2.1gm. ♀

446 *Anolis* *maulata* 180mm. (142mm.) 2.1gm. ♂

447 *Anolis* *maulata* 177mm. (140mm.) 1.6gm. ♀

448 *Sceloporus malachiticus* 155mm. (66mm.) 11.1gm. ♂

4 August 11km. W. and 4km. S. Cartago, 1700±50m., Cartago Prov., Costa Rica

skin + 449 *Sceloporus malachiticus* ¹⁹⁰ 185mm. (89mm.) 22.0gm. ♂
skel.

skin + 450 " " 100mm. + (82mm.) 14.7gm. ♂
skel.

451 " " 185mm. (84mm.) 21.5gm. ♂

452 " " 148mm. + (77mm.) 16.2gm. ♂

453 " " 143mm. + (73mm.) 14.0gm. ♂

454 " " 140mm. (62mm.) 18.9gm. ♂

455 " " 147mm. (74mm.) 13.0gm. ♀

4 August 2.5km. S and S.S km. W. Cartago, Cartago Prov., Costa Rica

456 *Sceloporus malachiticus* 159mm. + (88mm.) 22.3gm. ♂

457 " " 135mm. (67mm.) 10.7gm. ♂

5 August S.S km. S.E. Desamparados, 1350m., San Jose Prov., Costa
Rica

458 195mm. (63mm.) 6.7gm. ♂

6 August 3km. S. + 6km. E. Desamparados, 1420m., San Jose Prov., Costa
Rica

459 *Sceloporus malachiticus* 116mm. + (78mm.) 13.7gm. ♀

460 126mm. + (67mm.) 10.6gm. ♂

Arnold, Steven J.
1965

CATALOG

461 7 August Puerto Viejo, Heredia Prov., Costa Rica
Audis
(red bu - anterior margin yellow) ♂

8 August Puerto Viejo, Heredia Prov., Costa Rica

462	<u>Dendrobates</u>	<u>pumillio</u> (sp.)	20mm.
463	"	"	22mm.
464	"	"	21mm.
465	"	"	20mm.
466	"	"	20mm.
467	"	"	26mm.
468	"	"	20mm.
469	"	"	20mm.
470	"	"	19mm.
471	"	"	26mm.
472	<u>Audis</u>	<u>limithous</u>	112mm. (38mm.) 1.2gm. ♂
		(chr. white throat bu w/ yellow margin)	125mm.

9 August 2km. S. and 3km. E. Desamparados, San Jose Prov., Costa Rica

473 Sceloporus malacchiticus 178mm. (79mm.) 16.5gm. ♂

10 August Patarrá, 5km. E.S.E. Desamparados, San Jose Prov., Costa Rica

474 Bufo marinus 119mm. 193.1gm. ♂

475 Bufo 84mm. 46.3gm. ♂

11 August 2.5km. E. and 4km. N. Chitara, Cartago Prov., Costa Rica

476 Ameiva festiva 193mm. (64mm.) ♀

477 _____ (same) 20mm.

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CATALOG

12 August 2.5 km. E. and 4 km. N. Chitara, 600m., Cartago Prov., Costa Rica

478	<u>Anolis</u>	70mm. + (35mm.)	0.7gm. ♂
479	"	79mm. + (37mm.)	0.8gm. ♂
480	"	117mm. (40mm.)	1.2gm. ♂
481	<i>Molochia alluaudi</i>	184mm. (85mm.)	11.7gm. ♂
482	<i>Leptodeirus pautschii</i>	(44mm.)	5.4gm. ♂

13 August 7 km. N. and 2.5 km. E. Chitara, 450m., Limon Prov., Costa Rica

(skin + skel.)	483	<u>Ameiva festiva</u>	280mm. (85mm.) 17.0gm.	♀
	484	"	L.T. 8x5mm.; P.T. 8x5mm. 319mm. (94mm.) 26.0gm.	♂

13 August 2.5 km. E. and 4 km. N. Chitara, 600m., Cartago Prov., Costa Rica

(skin + skel.)	485	<u>Ameiva festiva</u>	275mm. (80mm.) 15.1gm.	♂
	486	"	265mm. (82mm.) 17.1gm.	♂
	487	"	L.T. 7x4mm.; P.T. 8x5mm. 249mm. (80mm.) 16.1gm.	♂
	488	"	161mm. + (60mm.) 5.5gm.	
	489	"	186mm. (91mm.) 5.2gm.	
	490	"	201mm. (61mm.) 6.5gm.	
	491	"	190mm. (60mm.) 5.6gm.	
	492	"	79mm. + (42mm.) 2.2gm.	
	493	+		
	494	(skel.) <i>Leptodeirus cheloni</i>	116mm. (46mm.) 2.4gm.	

13 August 3±1 mi. E.N.E. Juan Viñas, Cartago Prov., Costa Rica

(Anolis)	494	<u>Anolis</u>	10.5gm.	♀
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15 August 14 km. S.W. Liberia, Guanacaste Prov., Costa Rica

(Anolis)	495	white-tored Eutetrachel	8.0gm.	
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16 August Playas del Coco, Guanacaste Prov., Costa Rica

496	<u>Iguana iguana</u>	658mm. (182mm.) 196.5gm.	♀
497	"	1200mm. (364mm.)	♀
498	"	91mm. (40mm.) 2.2gm.	♀

Handwritten marks in the top left corner, consisting of several parallel diagonal lines.

Small handwritten marks or characters in the center of the page.

Arnold, Steven J.,
1965

CATALOG

16 August Playas del Coco, Guanacaste Prov., Costa Rica

499	<u>Sceloporus variabilis</u>	133mm. (57mm.)	7.4gm.	♀
500	" " ?	166mm. (50mm.)	3.9gm.	♂
501	" "	58mm.† (31mm.)	1.2gm.	
502	<u>Geosaurus similis</u>	265mm.† (322mm.)		♀
503	" "	695mm. (225mm.)		♀

17 August Playas del Coco, Guanacaste Prov., Costa Rica

504	<u>Sceloporus variabilis</u>	149mm. (73mm.)	13.3gm.	♂
505	" "	94mm. (38mm.)	1.9gm.	juv.
506	" "	88mm. (34mm.)	1.3gm.	"
507	" "	80mm. (31mm.)	1.2gm.	"
508	" "	67mm. (28mm.)	0.7gm.	"
509	<u>Eleutherodactylus fuscus</u>	(35mm.)	0.7gm.	♂
510	" "	(45mm.)	1.6gm.	♀
511	" "	(36mm.)	0.7gm.	♀
512	" "	(32mm.)	0.4gm.	♀
513	" "	(23mm.)	0.2gm.	juv.
514	<u>Cnemidophorus leppoi</u>	281mm. (88mm.)	17.3gm.	♂
515	" "	234mm.† (87mm.)	17.2gm.	♂
516	" "	235mm. (87mm.)	18.6gm.	♂
517	" "	198mm.† (75mm.)	10.6gm.	♀
518	" "	158mm.† (68mm.)	6.6gm.	♀
519	" "	129mm.† (69mm.)	7.2gm.	♀
520	<u>Ameiva</u>	249mm. (78mm.)	13.7gm.	♀
skink 521	<u>Mabuya mabuyalae</u>	109mm.† (63mm.)	5.6gm.	♀
" 522	" "	148mm. (57mm.)	3.2gm.	♂

528 Ctenosaurus similis ♀
R. Ovary 23mm. x 7mm (0.8-1mm) ^{dia.}
L. " 17mm. " " " "

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CATALOG

17 August Playas del Coco, Guanacaste Prov., Costa Rica

	523	<u>Ctenosaurus similis</u>	(190mm.)	226.9gm. ♀
skin + skeleton.	524	" "	515mm. (170mm.)	154.3gm. ♀
skin + skeleton.	525	" "	562mm. (187mm.) } L. Ovary 7x3mm.	214.9gm. ♀

19 August Playas del Coco, Guanacaste Prov., Costa Rica

526 Ameiva 205mm. + (80mm.) 14.5gm. ♀

527 Cnemidophorus ~~deppei~~ 99mm. (31mm.) 1.0gm. juv.

skin + skel. 528 Ctenosaurus humilis 864mm. + (311mm.) ♀

529 " " 308mm. (91mm.) 21.6gm. ♀ juv.

530 Anolis 19mm. + (41mm.) 1.5gm. ♂

formalin 531 Morococyx erythropygus 70.7gm.

20 August Playas del Coco, Guanacaste Prov., Costa Rica

532 Trimorphodon 1 ~~508~~ 615mm. (508mm.) 24.0gm. ♀

21 August Playas del Coco, Guanacaste Prov., Costa Rica

533 Iguana iguana 449mm. (123mm.) 68.1gm. juv.

tail + whole body
pinned for clearing 534 " " 322mm. + (122mm.) 56.8gm. juv.

535 62mm. 21.4gm. ♂

536 65mm. 18.2gm. ♀

537 23.8gm. ♀

538 23.1gm. ♂

23.8gm. ♀

21.1gm. ♂

23.1gm. ♂ ♀

539 Anolis 135mm. (42mm.) ♂

540 23.1gm. ♂

23 August 3km. S.E. summit Volcan Irazu, 3000m., Cartago Prov., Costa Rica

541 Mico volcani 30.7gm. L. testis 3mm. x 2mm. skull juv. ♂

542 " " 29.5gm. L. testis 2mm. x 1.8mm. skull adult ♂

543 31.3gm. Ova 1mm. + ♀

544 woodpecker 36.5gm.

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PLOS

CATALOG

23 August +	3 km. S.E. summit Volcan Irazu, 3000m., Cartago Prov., Costa Rica		
	5345	<u>Jusco volcani</u>	30.0 gm.
skel.	5346	" "	29.5 gm. ♀
skel.	5347	" "	29.5 gm. L.T. 2 mm. ♂
skel.	5348	" "	29.7 gm.
muslin	5349	" "	29.8 gm.
"	5350	" "	30.2 gm.
"	5351	" "	30.2 gm.
"	5352	<u>Chlorospingus pileatus</u>	19.4 gm.
"	5353	<u>Acanthidops bairdi</u>	14.5 gm.
23 August	6 km. S. and 3 km. W summit Volcan Irazu, 2500m., Cartago Prov., Costa Rica		
skel.	5354	<u>Pezopetes</u>	58.0 gm. L.T. 8 x 5 mm. ♂
4 September	35 mi. S.E. San Cristobal las Casas by road, 6900', Chiapas, Mexico		
	555	<u>Rana</u>	46 mm.
4 September	1 mi. N. Ixtapa, Chiapas, Mexico		
	556	<u>Bufo</u>	75 mm.
5 September	28 mi. S. Simjovel by road, 3500 ft., Chiapas Mexico		
	557	<u>Sceloporus variabilis</u>	143 mm. (55 mm.) ♂
29 August	5.5 km. S.E. Desamparados, 1850m., San Jose Prov., Costa Rica		
	558	<u>Ninia</u>	330 mm. (220 mm.) ♀
10 September	26 mi. S. Benjamin Hill by road, Sonora, Mexico		
	559	<u>Crotalus atrox</u>	♂
11 September	8 mi. W.S.W. Tucson, Pima Co., Arizona		
	560	<u>Pituophis m. affinis</u>	
10 September	15 mi. S. Benjamin Hill by road, Sonora, Mexico		
skin + skel.	561	<u>Timorphodon barbouri</u>	♀

Mudd, Steven J.
1965

CATALOG

27 August

San Blas, Nayarit, Mexico (preserved 4 October 1965)

Johnson Coll. 562
Ross Kriester
July 4

Geophis

545mm. (202mm.) ♀

~~Abolobolus~~ St. Ceuve's Creeper, British
West Indies

563 Anolis richardii

323mm. (102mm.) ♂

preserved 13 October 1965

3 July

Cold Lake, elev. 6100 ft., Sierra Co., California

for
J.C. Reutz

564

Ambystoma macrodactylum

565

" "

20 October

Orinda, Contra Costa Co., California

lector
unknown

566

Pituophis m. catenifer

677mm. (588mm.) ♂

(Moult in by cat, collector unknown)

20 February

1.2 mi. N., 0.75 mi. E. Brock Mt., Squaw Creek Canyon,
2500 ft., Shasta Co., California

567

Hydromantes shastae

juv.

568

" "

20 February

1.0 mi. N., 7/8 mi. E. Brock Mt., Squaw Creek Canyon,
Shasta Co., Calif.

567

Hydromantes shastae

juv.

568

" "

13 February

5 mi. W.N.W. Pope Valley, ~~Mariposa~~ E. Cleary Reserve,
Yuba Co., California

569 Coutia tenuis

378mm. (342mm.) ♀

13 February

570 Eumeces skiltonianus

Arnold, S.J.
1966

CATALOG

2 March 1.8 mi. E. University of California Botanical Gardens,
Contra Costa Co., Calif.

571 ~~580~~ Batrachoseps attenuatus

572	"	"	♀
573	"	"	♂
574	"	"	♀
575	"	"	♀
576	"	"	♀
577	"	"	♂
578	"	"	♀
579	"	"	♂
580	"	"	♀
581			
582			♂
583			♂
584			♀
585			♀
586			♀
587			♂
588			♂

April 1963 12 mi. ESE San Luis, Sonora, Mexico

589 Uma notata

7 March

kin & skull H. 590 Chameleo 268 mm (132 mm SV.) ♀
Received from T. Papenfuss 5/6/66
right ovary w/ 17 ova (5-6 mm) + 2 ova (4 and 2 mm.)
left ovary w/ 20 ova (5-6 mm) + 4 ova (2-4 mm. in dia.)
Right femur broken ~~in~~ when received
died 7 May 1966

Arnold, J.J.
1966.

CATALOG

13 February 5 mi. W.N.W. Pope Valley, E. Cleary Reserve,
Napa Co., California

in + skel.

591

Contia tenuis

♀

died 28 April 1966

25 February 3 mi. E.S.E. University of California, Contra Costa Co.,
Calif.

592 Aucides lugubris

593 " "

19 February 3 mi. N. Hoopa, Humboldt Co., Calif.

594 Plethodon elongatus

595 " "

596 " "

597 " "

598 " "

19 February 0.7 mi. N, 3.2 mi. W. Weitchpec, 1200-1500 ft.,
Humboldt Co., Calif.

599 Aucides ferreus

600 " "

601 " "

602 " "

25 February 3 mi. E.S.E. University of California, Contra Costa Co.,
Calif.

603 Aucides lugubris

2 March 10 mi. S.E. University of California, Berkeley, Alameda
Co., Calif.

604 Aucides lugubris

Steven J. Arnold

1963

Journal - Calif.

Arnold, Steve
1963

JOURNAL

April 9 Mountain Palm Springs, Anza-Borrego State Park,
San Diego Co., California: Creosote and ocotillo on
the alluvial fan but no Spanish Dagger. Drove
east to Yuma, Yuma Co., Arizona — south to San Luis,
Yuma Co. and crossed the border to San Luis, Sonora,
Mexico. Stopped about 20 miles east of San Luis,
Sonora — Yuma Desert, flat plain with reddish-
brown soil — small sand dunes with scattered
creosotes. Excavated a sand dune approx 15' long
and 8' wide, 2½' in height — sand somewhat damp
below surface — no specimens taken. From dusk
to 9:30 PM (Pacific Stand. Time) drove Highway 2 in
Sonora from east of San Luis to Sonoyta. Drove
south of Sonoyta 5 miles then turned around
drove back to Sonoyta and crossed the Arizona-
Mexico border at Lukeville, Pima Co., Arizona. American
official at check station said he had seen^{no} snakes
on the roads in the monument but latter in the year
they were quite common. He reported seeing Heloderma
on two occasions south of Quintobaquinto, Pima Co.,
Arizona on Highway 2 in Sonora. Slept in Organ Pipe
Cactus Nat'l Monument, Pima Co., Arizona

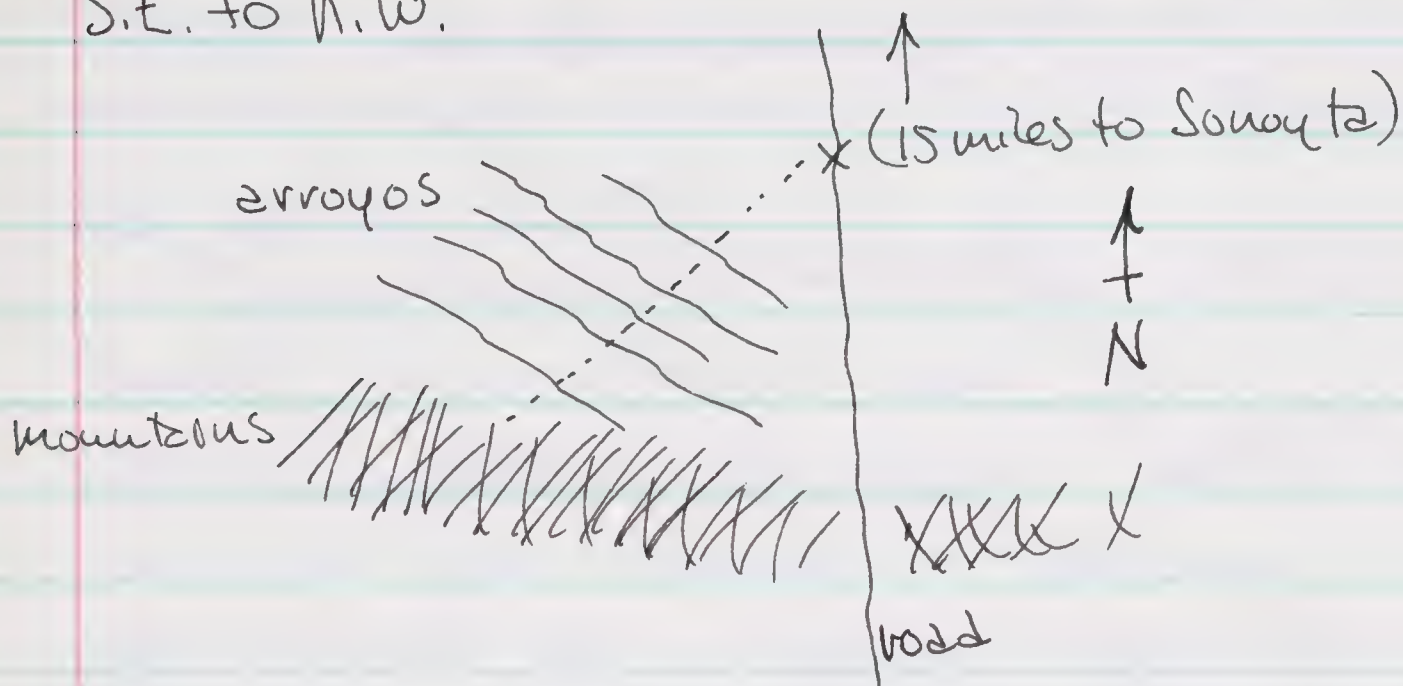
April 10 Drove to a Mexican check station 15 miles south of
Sonoyta, Sonora, Mexico. Officials reported seeing many
snakes in the area but no Heloderma (El Scorpion).
Sonoran Desert — bajadas with mountains in all
directions. Walked S.W. from the check station

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1963

JOURNAL

April 10 15 miles south of Sonoyta, Sonora, Mexico:

across a bajada toward a group of mountains about $1\frac{1}{2}$ miles away. A series of arroyos run S.E. to N.W.



Predominate plants: Saguaro, cholla, senita cactus, palo verde, mesquite, creosote. Small squirrels were sighted in the rocks @ the base of the mountains and scorpions (Centruroides) were taken under rock flakes but no Sauromalus were sighted. Cnemidophorus, Uta stansburiana, Uta ornata, Piposaurus, Callisaurus, Sceloporus magister taken or sighted on the bajada.

Drove north to Sonoyta about 1:00 PM and then west along Highway 2 toward San Luis, Sonora. Stopped 35 miles west of Sonoyta, Sonora, Mexico - surrounding area largely volcanic with some open areas and scattered creosotes. Cnemidophorus, Uta stansburiana, and Callisaurus taken or sighted.

Stopped about 15 miles E. of San Luis, Sonora, Mexico - reddish-brown sand - relatively flat fls plain - small hummocks @ bases of creosotes. One juvenile Uma sighted

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April 10 15 miles E. of San Luis, Sonora, Mexico
under a creosote bush.

Crossed Mexico-Arizona border at San Luis.
Stopped in San Luis, Yuma Co., ~~California~~ Arizona
near an irrigation channel to look for Thomomys —
Uta stansburiana taken.

Crossed Arizona-California border at Yuma,
Yuma Co., Arizona. Stopped about 25 mi. E of
Calexico, Imperial Co., California — reddish-brown
soil — flat plain — creosotes more green and
more abundant than in Sonora — lizard tracks
(Chamaeleon or perhaps Dipsosaurus) but no
specimens seen.

Drove north up the east side of the Salton
R. Reached Desert Hot Springs, Riverside Co., California
about 7:30 PM. Strong wind — Dipodomys active — no
reptiles on road.

Checked traps in Whitewater Canyon, Riverside Co.
— Uta stansburiana, Bufo punctatus. Slept near the
Fish Hatchery.

April 11

Drove to Cabazon, Riverside Co., California. Mouse,
scorpions and Uta under surface litter 1 mi. S.E.
of Cabazon. 1 1/2 miles E.S.E. of Cabazon, base of San
Jacinto Mts., 1 Emmea and Uta wevusi found
in traps. Sceloporus ocutti, Callisaurus and Hyla
arenicolor sighted. Uta stansburiana taken in traps
1 mi. S.E. of Cabazon. Boys hunting in the area

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April 11 1 1/2 mi. E.S.E. of Cabazon, Riverside Co., California
talked of shooting a snake in the process of eating a lizard and showed us a Salvadora h. virgultes 2ft long with the head blown off.

Drove north through Cajon Pass to the upper desert. Stopped 1 mi. n. of Cajon, Cajon Pass, San Bernardino Nat'l Forest and collected one Uta stansburiana

Drove from Barstow to 32 mi. N.N.E. of Baker, San Bernardino Co., California (dusk to about 9:30 PM) — no specimens seen on road.

April 12 32 mi. N.N.E. of Baker, San Bernardino Co., California
—walked to rock formations about 1/8 mi. west of the road. Uta stansburiana sighted in wash running parallel to rocks — 6:30 AM

35 mi. N.N.E. of Baker, San Bernardino Co., California
—Callisaurus sighted in sandy wash — 8:00 AM

5 mi. W.N.W. of Tecopa Hot Springs, Inyo Co., Calif.
stopped near alkali ponds west of road — ♂ + ♀ Uta stansburiana taken.

3-4 mi. from Highway 127, Salisbury Pass, Inyo Co., California — small level rock formations running N.-S. with series of wide sandy washes parallel to rocks. Creosote and wildflowers. Adult and juv. Chamidophorus taken + sighted. Callisaurus sighted in washes. One Uta stansburiana in rocks 10:00 AM

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April 12

6-7 mi. from Highway 127, Salisbury Pass, Inyo Co., Calif.
gravel topsoil with scattered small boulders and
a few creosote bushes - increasing elevation
toward Salisbury Pass - Chemidophorus and
Callisaurus Salisbury Pass (elevation 3300')

Salisbury Pass, Inyo Co., California - Sauromalus
10:30 AM

Bradbury Well, Death Valley National Monument -
Sauromalus

Rhodes Well, Death Valley Nat'l Monument, Inyo Co.,
California - coarse sandy, inclined plain -
Scattered bushes - Dipsosaurus, Uta, Callisaurus,
and Chemidophorus. 11:45 AM

Jubilee Pass, Death Valley Nat'l Monument, Inyo
Co., California - juvenile Sauromalus photographed

3 mi. west of Jubilee Pass, Death Valley Nat'l Mon.,
Inyo Co., Calif. - Crotaphytus wislizeni sighted
from car.

4-6 miles w. of Jubilee Pass Death Valley Nat'l
Monument, Inyo Co., California - Dipsosaurus and
Sauromalus sighted

Arnold, Steve
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JOURNAL

April 12 4 miles w. of Jubilee Pass, Death Valley Nat'l Mon.
Inyo Co. California - adult ♂ Crotaphytus
collaris photographed - 12:20 PM

Drove north through Death Valley and out through Toiyas' Pass. Drove road from 23 to 36 miles north of Trona in the Panamint Valley from dusk to 8:30 PM - no specimens seen. Slept on the alluvial plain below Surprise Canyon, Panamint Mts., Inyo County, California

April 13 Surprise Canyon, Panamint Mts., Inyo Co., California -
hiked up the alluvial plain to Surprise Canyon and up-canyon to the Blue Boy Mining Co. buildings.
Uta stansburiana, Chamaeleo and Hyla
regilla found within the canyon. Sauromalus
and Callisaurus sighted at the canyon
mouth 11:30 AM.

6-7 mi. E. of Panamint Springs, Inyo Mts.,
Inyo Co., California - 2 ♂ Crotaphytus collaris
sighted from car and photographed (one specimen
only)

8 mi. E of Panamint Springs, Inyo Mts., Inyo Co.,
California - Sauromalus sighted

Arnold, Steve
1963

JOURNAL

April 13 10 mi. E. of Panamint Springs, Inyo Mtns.,
Inyo Co., California - 2 *Sciuromachus* sighted.



Arnold, Steve
1963

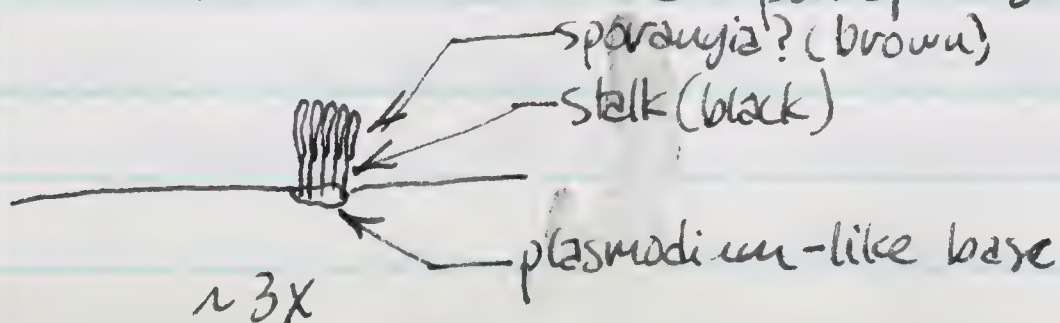
JOURNAL

November 24

Strawberry Canyon Alameda Co., California

Arrived @ mouth of Straw. Canyon @ 12:00 noon and proceeded up road. Found small tarantula (head & body length 2cm.) under cement slab just off road 200 yds. E.N.E. of S. Canyon Recreation Area. Centipede found under stone in grass N. of road.

Found several Batrachoseps under log @ edge of plowed area N. of U.C. Botanical Gardens parking lot. ^{#59} Gerrhonotus ^{multicarinatus} found under board @ edge of pine grove (see map.) Walked up road E.N.E. of Bot. Gardens. Road runs on west side of small canyon. Climbed down to stream and up other side of cany. to eucalyptus grove. Stripped bark off fallen eucal. log and found several more Batrachoseps. Ground under trees littered with fallen bark, still quite moist from rains during last few days — mushrooms, shelf fungus very conspicuous. (on underside of log where Batrachoseps were found N. of Bot. Garden parking lot there were 2 groups of spore-like objects — one group of about 18 and another of perhaps 3 dozen.)



Arnold, Steve
1963

JOURNAL

November 24 Strawberry Canyon, Alameda Co., California

1. Batrachoseps stenuatus

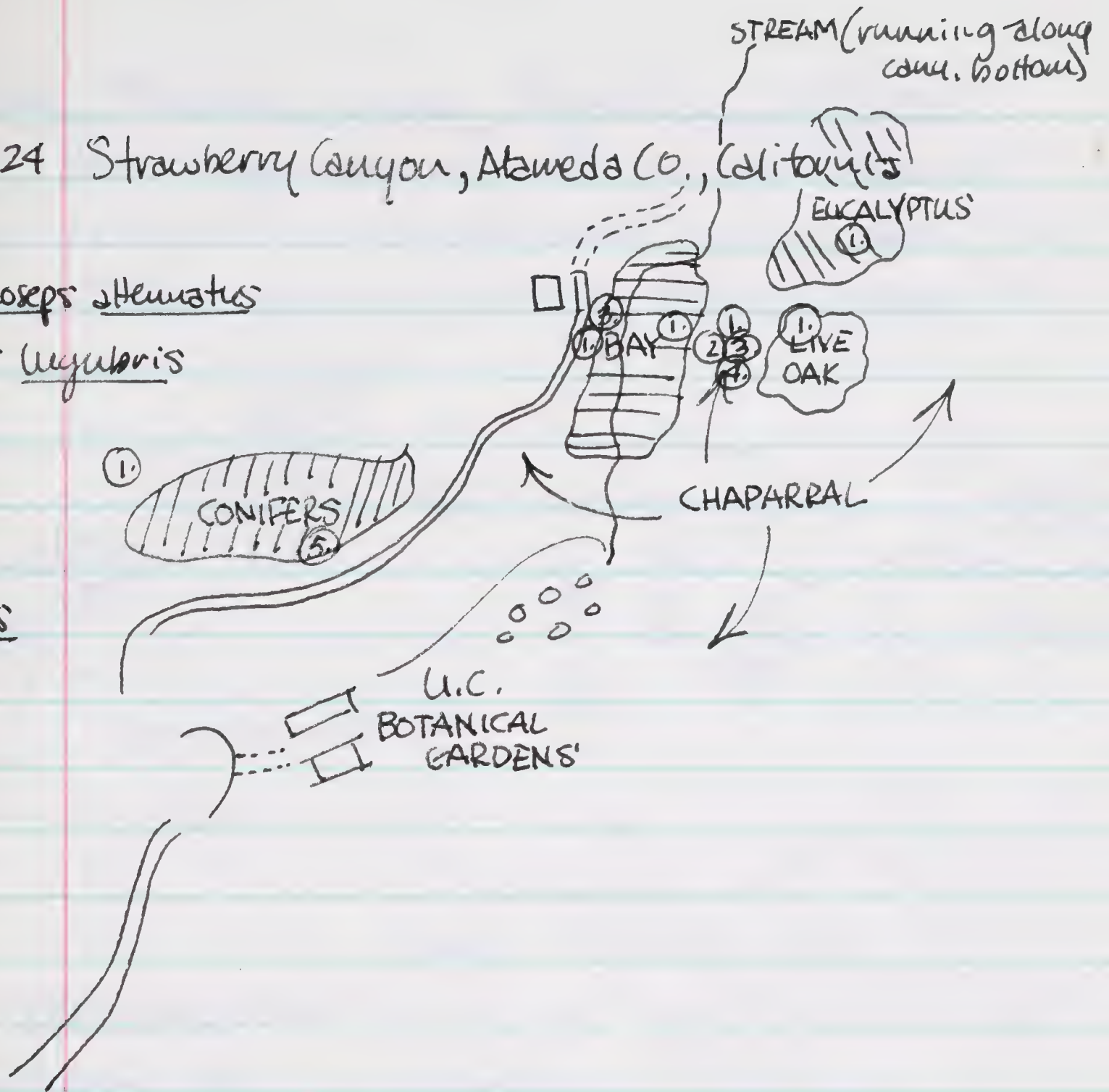
2. Aneides lugubris

insatius e. e.

erichia

serruatus

multicarinatus



Area between eucalyptus grove and small group Coast Live Oaks covered with dense chaparral. Hawk seen circling hill due west of live oak grove. Ground under live oaks covered with fallen oak leaves with few small scattered boulders. Batrachoseps and milliped (4cm. long, body flattened dorso-ventrally, color green-yellow, 1/2cm wide) found under rock (milliped under leaf litter).

Started across canyon back toward road.

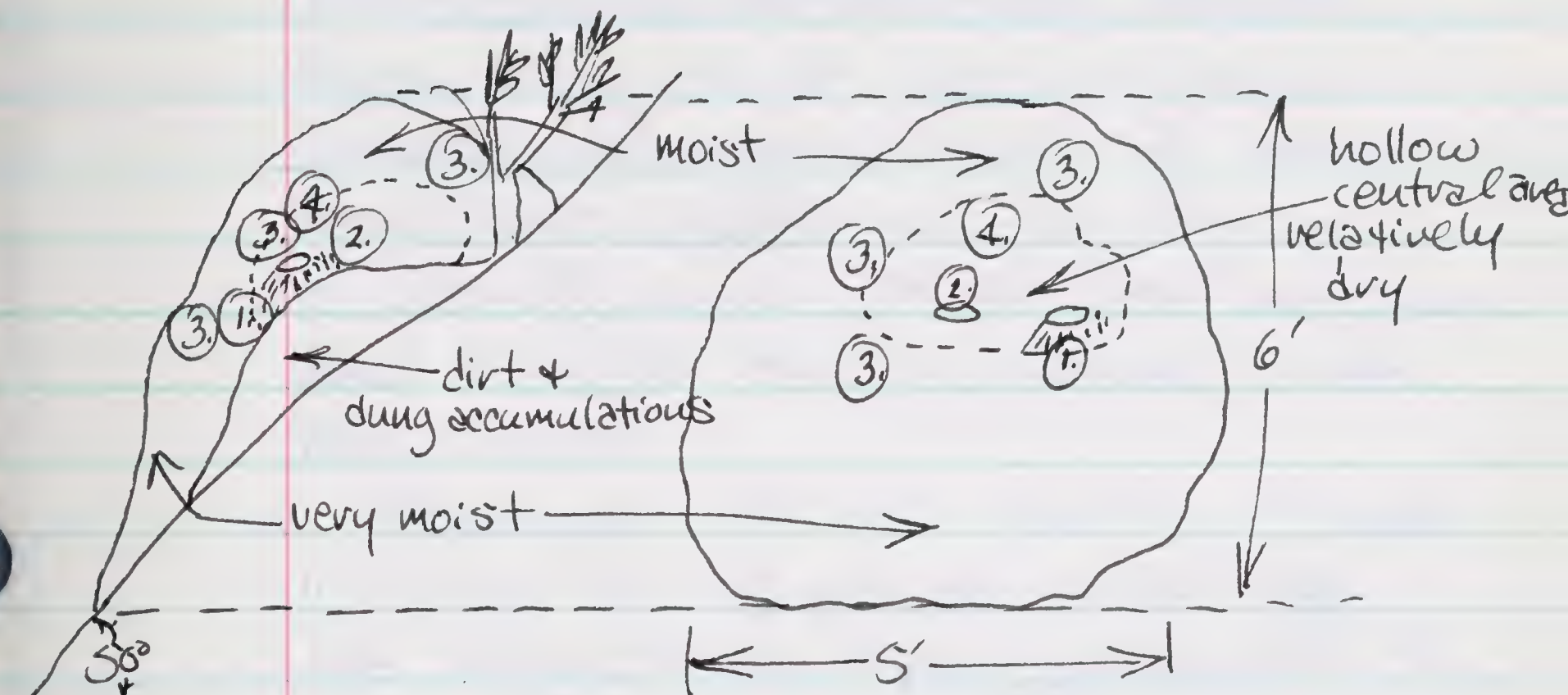
Arnold, S.

1963

JOURNAL

November 24 Strawberry Canyon, Alameda Co., California

Found large wood rat nest in dense chaparral below live oaks and about 20 yds. about the stream and cany. bottom. Nest composed of



- 1) Batrachoseps (1 ea.)
- 2) Aneides (1 ea.)
- 3) Ensatina (3 ea.)
- 4) Taricha (1 ea.)

interlaced branches and twigs. Began excavating @ bottom of nest — very moist, many mushrooms, slime mold (yellow-orange). Reached hollow interior — grass lined burrow entrance set off to one side. Batrachoseps burrowed rapidly into grass when uncovered. Grass surrounding burrow swarming with ticks, mites, maggots, beetle larvae, rove beetles, dung beetles, (several small metallic green beetles found — jump several inches — Cerambycidae?)

Arnold, S.
1963

JOURNAL

November 24

Strawberry Canyon, Alameda Co., California

Fresh dung and older dung interlaced with fungus surrounding grass lined entrance. Dung beetles actively working over fresh dung.

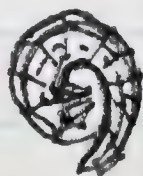
Adult Eusctina^{#61} scrambled thru branches above hollow interior when uncovered.

Juvenile Eusctina^{#62} found to left of interior.

Adult Anisotoma^{#63} found at the end of a small, very dry burrow. Small, very heavy adult ♀ Tenodes^{#64} found in branches above hollow interior.

Main support for nest consisted of small live shrub near top nest and several large dead shrub stumps roughly perpendicular to canyon wall. Half grown Eusctina^{#65} found among these large stumps (dia. 3-4").

Surrounding the grass lined burrow entrance there were several recently cut small twigs with leaves. The bottom center of the nest was built up with accumulations of dung and dirt. This area was interlaced with several short burrows. In addition there were entrances to a few presumably deeper burrows. Fire fly-like larva found in one of the short dry burrows (23mm. long)



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JOURNAL

November 24 Strawberry Canyon, Alameda Co., California
Large milliped was found @ the bottom of the
nest (cylindrical body).

Hiked down to cany. bottom. Found several
Batrachoseps under board under Bay trees.
Ground under Bay trees covered with
leaves with scattered rocks. At edge of
bay trees on west cany. wall 1/2 grown
^{#66}Ensatina found under board - ground very
rocky. Another Batrachoseps found under
board in chaparral.

Arnold, S.
1964

JOURNAL

January 30

(Dick Sage, Eric Gunderson)

4.5 mi. NNE Orinda, Contra Costa Co., California on
west shore San Pablo Reservoir

Batrachoseps found under logs in under leaf
litter. Collected in Syringone leaf litter. Several types of
isopods + millipeds found. Diphura very abundant
(Campodea sp?).

Collected larvae + various beetles in decaying
Quercus agrifolia

Large Batrachoseps ^{#67} found in Quercus leaf litter
under log with earthworm (~4mm.) protruding from
mouth (earthworm ~6cm long + 2mm in dia.)

2.7 mi. NNE. Orinda, Contra Costa Co., California

Wood piles ~ 10' long X 3' + 4' X 3' and 6"-10" high
taken apart. In smaller wood pile found large Aneides ^{#68}
lugubris (no spots in dorsal pattern) among logs.
Diadophis ^{#69} a. amabilis found under board in
sandy soil. 2 more large Aneides ^{#s 70-71} lugubris found
in larger wood pile. Small (4cm) Taricha ^{#72} torosa
found @ edge of pile. Juvenile Taricha ^{#73} torosa found
among boards ~ 4" above ground. Batrachoseps
very abundant in both piles. Several large
long, slender centipedes found ~~in~~ under boards
on ground in both piles. Surrounding area
Quercus agrifolia + Conifer situation.

Arnold, S.
1964

JOURNAL

January 30

2.7 mi. NNE Orinda, Contra Costa Co., California

Rolling hills (cattle pasture land) with small stream bordered by Bay trees. Hills scattered with Q. agrifolia. Sceloporus^{#74} occidentalis found under bark of dead Quercus agrifolia ~ 3-4' above ground. 3 juvenile Eusatia^{#75-77} escholtzi found under logs beneath Bay trees near stream.
→ 2 juvenile Aneides^{#78-79} lugubris found under Quercus agrifolia bark (dead tree - same tree with Sceloporus) ~ 5' above ground

		total length	snout-vent
juv.	<u>Eusatia</u> <u>escholtzi</u>	4.4 cm	2.6 cm
		4.7 cm	2.6 cm
		4.7 cm	2.9 cm
juv.	<u>Aneides</u> <u>lugubris</u>	4.3 cm	2.3 cm
		4.5 cm	2.3 cm
juv.	<u>Sceloporus</u> <u>occidentalis</u>	10.3 cm	4.5 cm
juv.	<u>Dipsosaurus</u> <u>a. amabilis</u>	16.0 cm	12.9 cm

Arnold, S.
1964

JOURNAL

January 31 (Dick Sage, Eric Gunderson)

Muir Woods National Monument, Marin Co., California

Several ^{#80-84}Dicamptodon eusatus larvae found in more quiet pools (with comparatively few rocks & muddy bottoms — pools about 6-12" deep).

Adult ^{#85}Dicamptodon found under pile of stakes about 10' from stream @ base of redwood.

Predominant vegetation where D. eusatus found: redwood + ferns.

Adult ^{#86}Eusatia eschscholtzi found under piece redwood bark (6" x 3') on 60° slope. 2 juvenile Eusatia found under large redwood slab. 1/2-grown ^{#87}Eusatia found in large (6' dia.) hollow stump under bark.

^{#88}Batrachoseps found under adjacent bark. Eusatia were also found in redwood-fern situations @ ^(or near) canyon bottom.

Many Batrachoseps (with several phases — eg. red-brown dorsal stripe, ^(various shades) brown dorsal stripe, diffuse pattern on dorsum) found in same situation as Dicamptodon + Eusatia. The Eusatia were considerably darker dorsally than E. eschscholtzi from the Berkeley area.

Several types of centipedes + millipedes were found under surface litter on the canyon bottoms.



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Muir Woods National Monument, Marin Co., California

January 31

	snout-vent	total length
<u>Dicamptodon</u> larvae:	~ 22 mm	45 mm
<u>Dicamptodon</u> adult:	8.0 cm	14.5 cm
<u>Ensatina</u> adult:	5.5 cm	11.5 cm

(pupils dark below - yellow speckled for ~ upper 1/3)

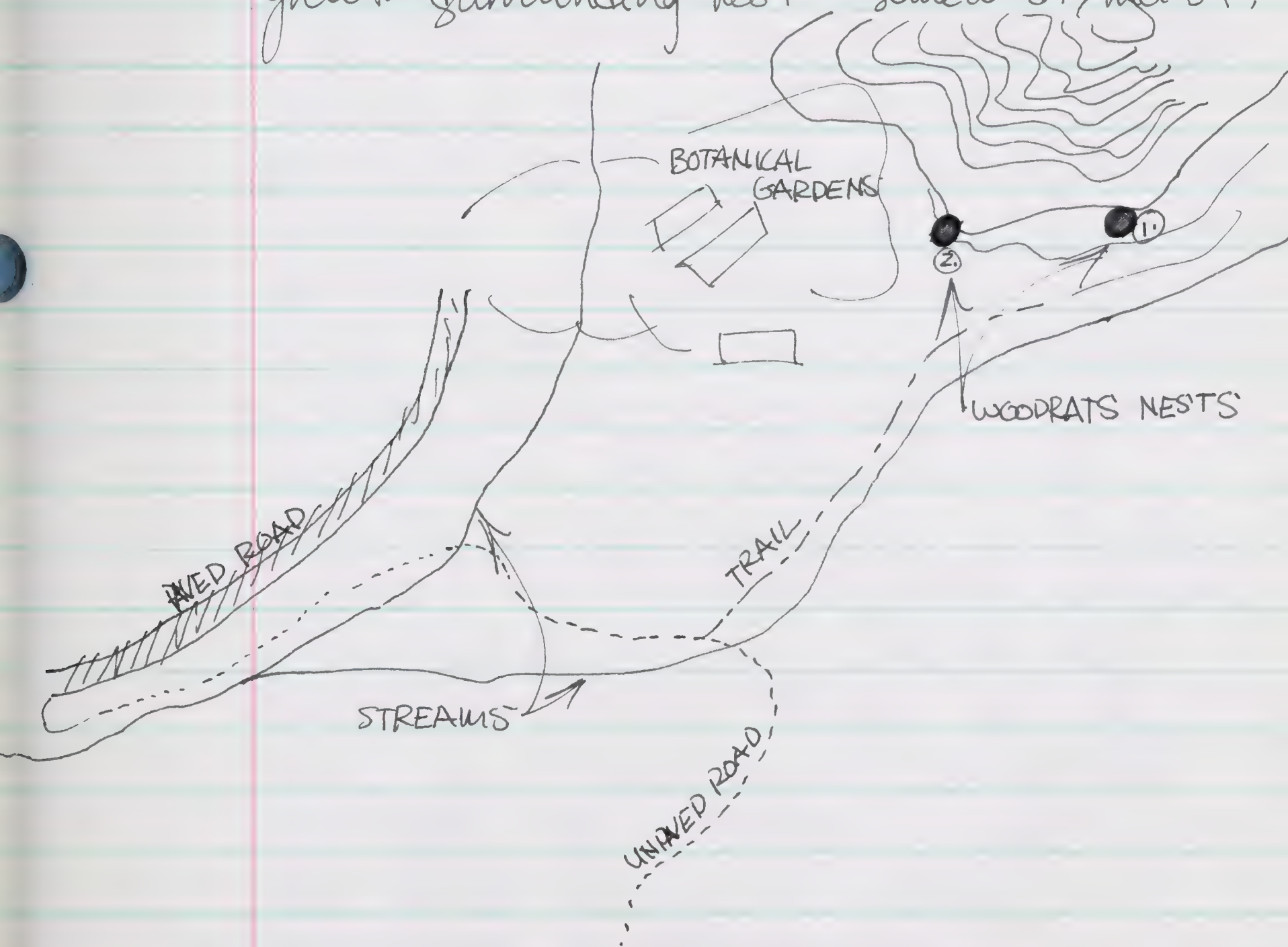
Arnold, S.
1964

JOURNAL

February 2

Strawberry Canyon, Alameda Co., California

Excavated wood rats nest^① in dense chaparral area. Nest ~ 4' long & 2 1/2' wide placed on 45° slope - 3' deep @ thickest part. Hollow central area ~ 10" x 10" apparently recently cut Bay leaves above compact mass of dead grass. Several fungi found in moister areas. Low ^{plant} growth surrounding nest - somewhat moist.



Summit of hill immediately above wood rats nest no. 1 - groves of conifers + occasional Coast Live Oaks ~~but~~ between groves of eucalyptus.

Arout
Alameda Co.
1964

JOURNAL

February 2

Strawberry Canyon, Alameda Co., California

^{#89} 1/2 grown Aneides lugubris found under bark of fallen pine tree - Batrachoseps found under same log. This log located in conifer grove with grass ground cover. ^{#90} Batrachoseps, ^{#91} adult Eusaurus and ^{#92} juv. Aneides lugubris found under another fallen pine log (surrounding trees conifers leaf litter ground cover) ^{Sweep} were Batrachoseps found under logs.

At bottom of hill, east of botanical garden greenhouses found wood rat's nest (2).

Drier area than (1). Chaparral on hill nevertheless quite green. Apparently a recently (comparatively) built nest — ~3' long X 2' wide & 1 1/2' deep on 45° slope. Some fungus & a few beetles.

Stream border ~800 yd. east of Strawberry Canyon Recreation Area: Batrachoseps very numerous under live Oak logs in Quercus agrifolia - poison oak - fern situation. Millipedes & centipedes ~~are~~ also very numerous. ~~the~~ Centipedes (~2 1/4" long X 3/8" wide, red-orange color) found coiled around a spherical mass ^(8 mm in dia.) of 57 eggs (ovoid, ~1.5 mm long X 1 mm wide). Eggs mass held by legs. Eggs light yellow in color (translucent) & slightly adherent.

Steven J. Arnold

1965-

Journal

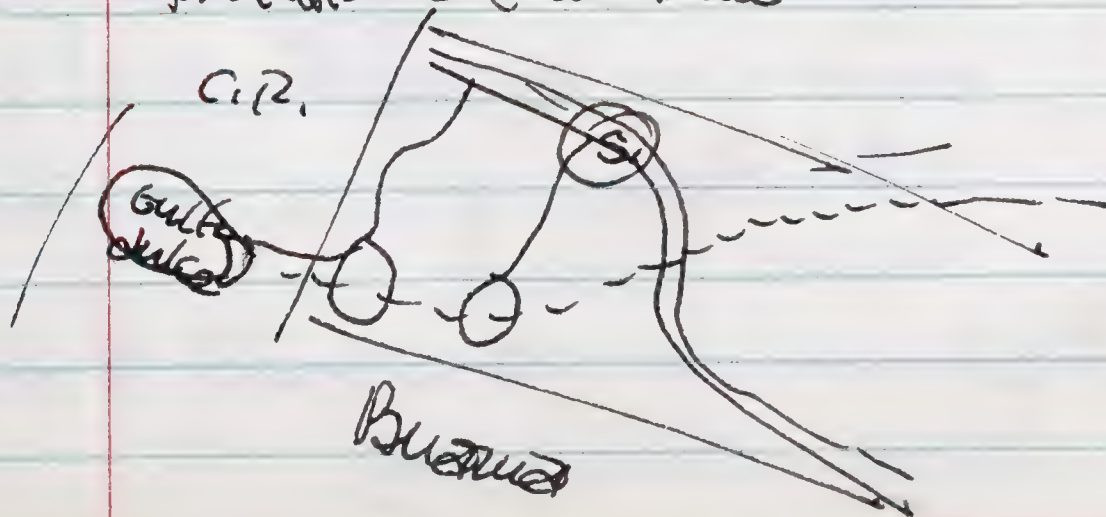
Arizona to

Costa Rica

CENTRAL AMERICAN ZOOGEOGRAPHY
(HERPS)
- JAY SAVAGE

16 July 1968
Las Cruces, Costa Rica
(O.T.S.)

- ① E. Lowland Herpetofauna
Atlantic coast region (Yucatan to Pan-C.R. border)
lowland, mesic forest types
- ② W. Lowland Herpet.
(Sinaloa - San Jose, C.R.) xeric environ.
- ③ U. Upland fauna
or high
(Chiapas, Guatemala + disjunct in Nicaragua)
- ④ S. Highland fauna
(U. + S.C.R. - eg. Chiriqui)
- ⑤ W. S. American fauna to Venezuela
(Ecuador - Colombia passing pacific to Atlantic
versant area. w/ xeric environ meets E. lowland E.
in Panama
(foothills of W. Guatemala } w/ fauna isolated &
Golfo Dulce } characteristic of
Atlantic fauna
- ⑥ U. South America (Chaco of Venezuela + Colombia)
terminates @ Golfo Dulce



(Central American fauna has evolved largely in situ)

2 tropical units evolved independently since Pliocene
(end of Pliocene isthmian link submerged
re-established in Pliocene - 5 million yrs.)

South American element (evolution during
Cenozoic, trapped S. of isthmus)

(Epiplatys, Neurostomus)

Middle Amer. element (trop. types occurred
N. of isthmus when link destroyed in Eocene)

(eg. Chelonis, Tyrannus, Basiliscus)

occurred further north (eg. Colorado, Montana)
during Eocene but @ present rare forms
with N. limit in Guatemala

(corresponds to Arcto-Ter. Geoflos)

Old northern element (typical mammals in Eocene

occurred in Oak-Comifer forest to N. of
Georgia + Montana (eg. Felis)

see Neotoma
Geoflos

A few groups moved down Rocky Mts. (eg. Volantulus)
eg. Neotoma

Neotoma
Geoflos

+ became associated w/ M. Amer. el. during
Eocene

Young northern element (genus + species

groups whose derived from trop. forest -
became adapted to xeric conditions of S.
& Mex. Plateau

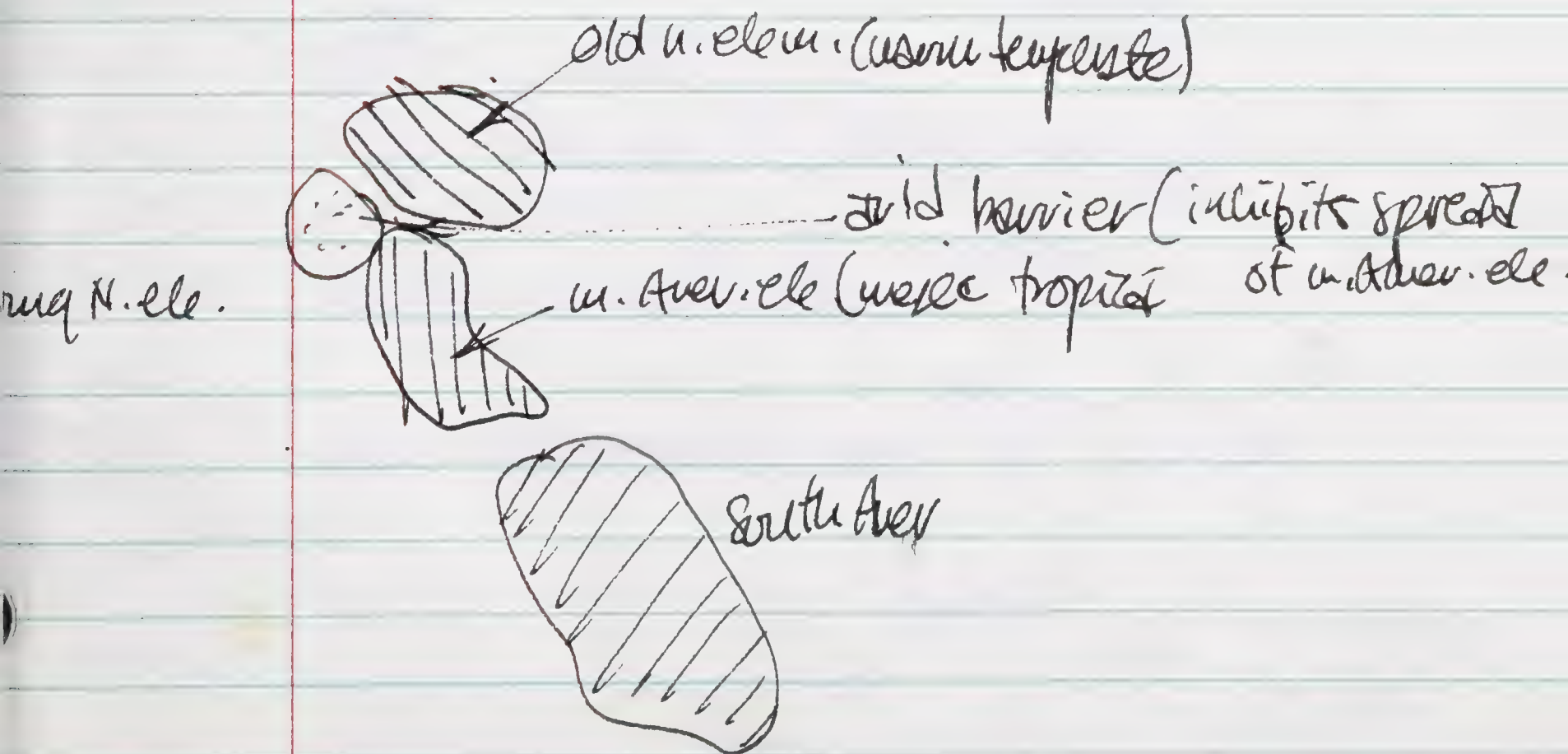
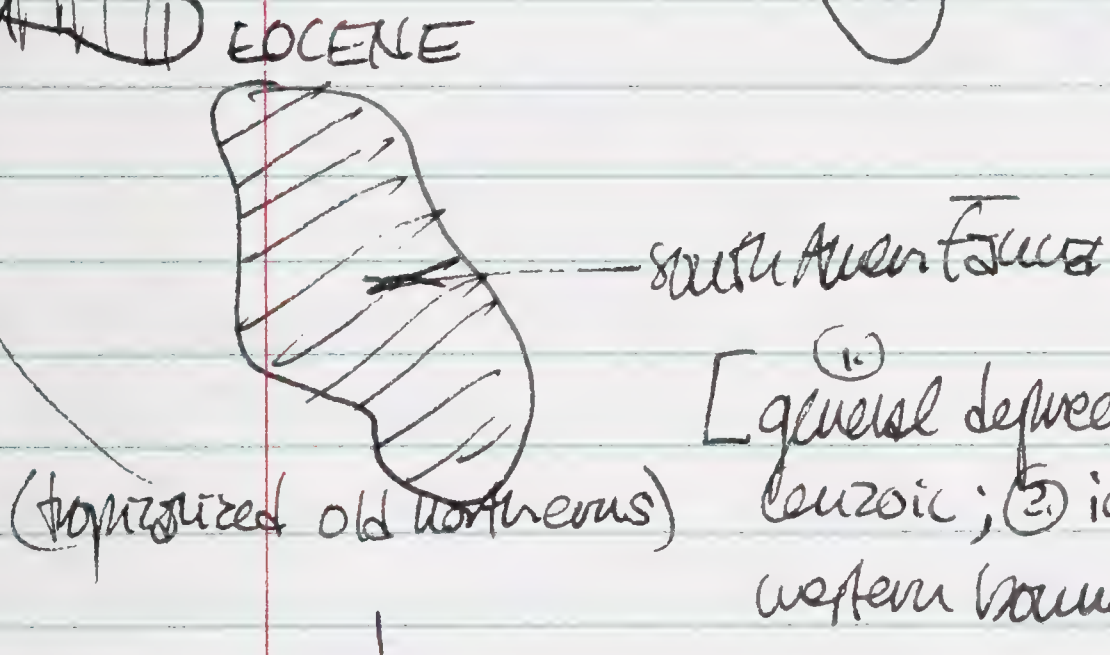
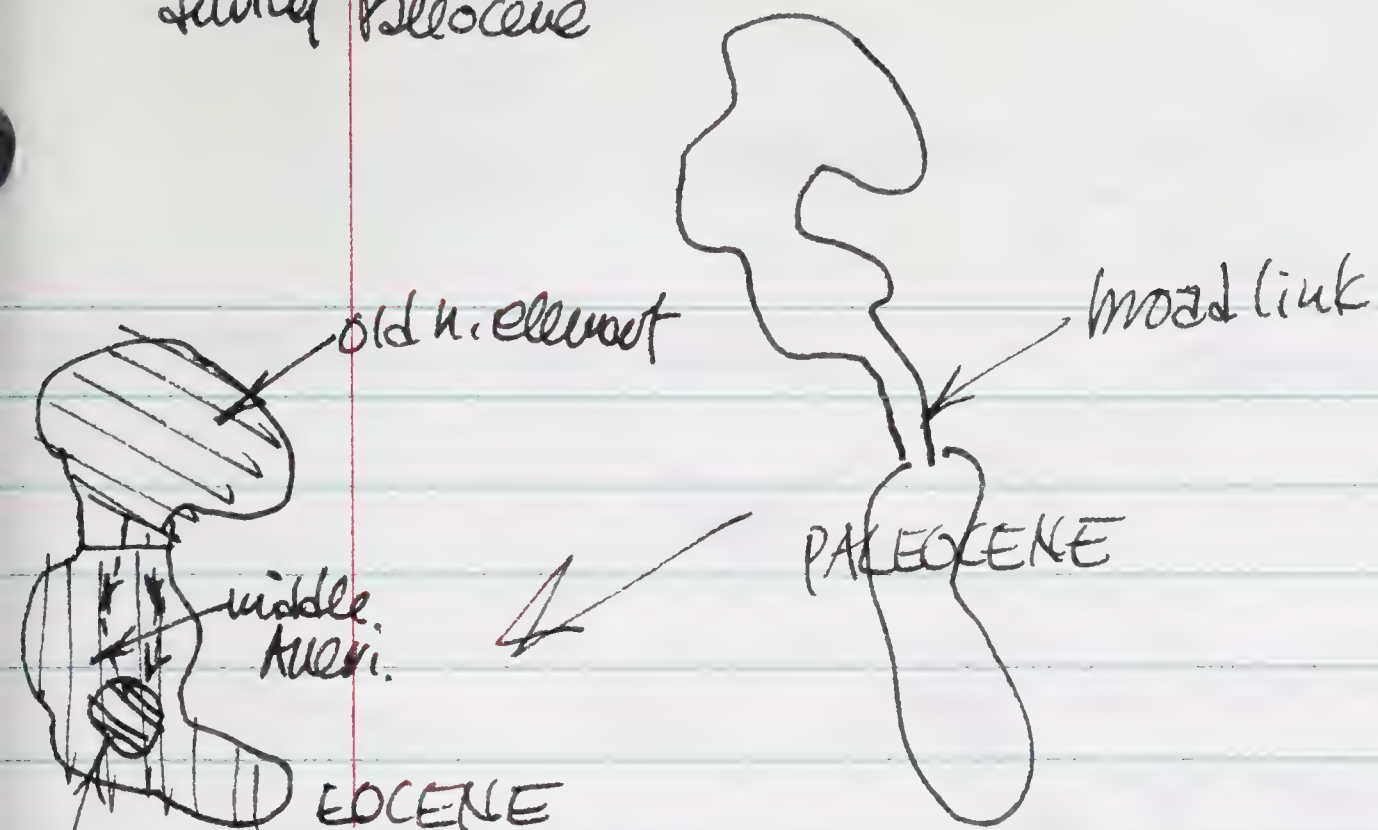
Environment developed in middle to late
Cenozoic - evolved in situ

eg. Crotalus

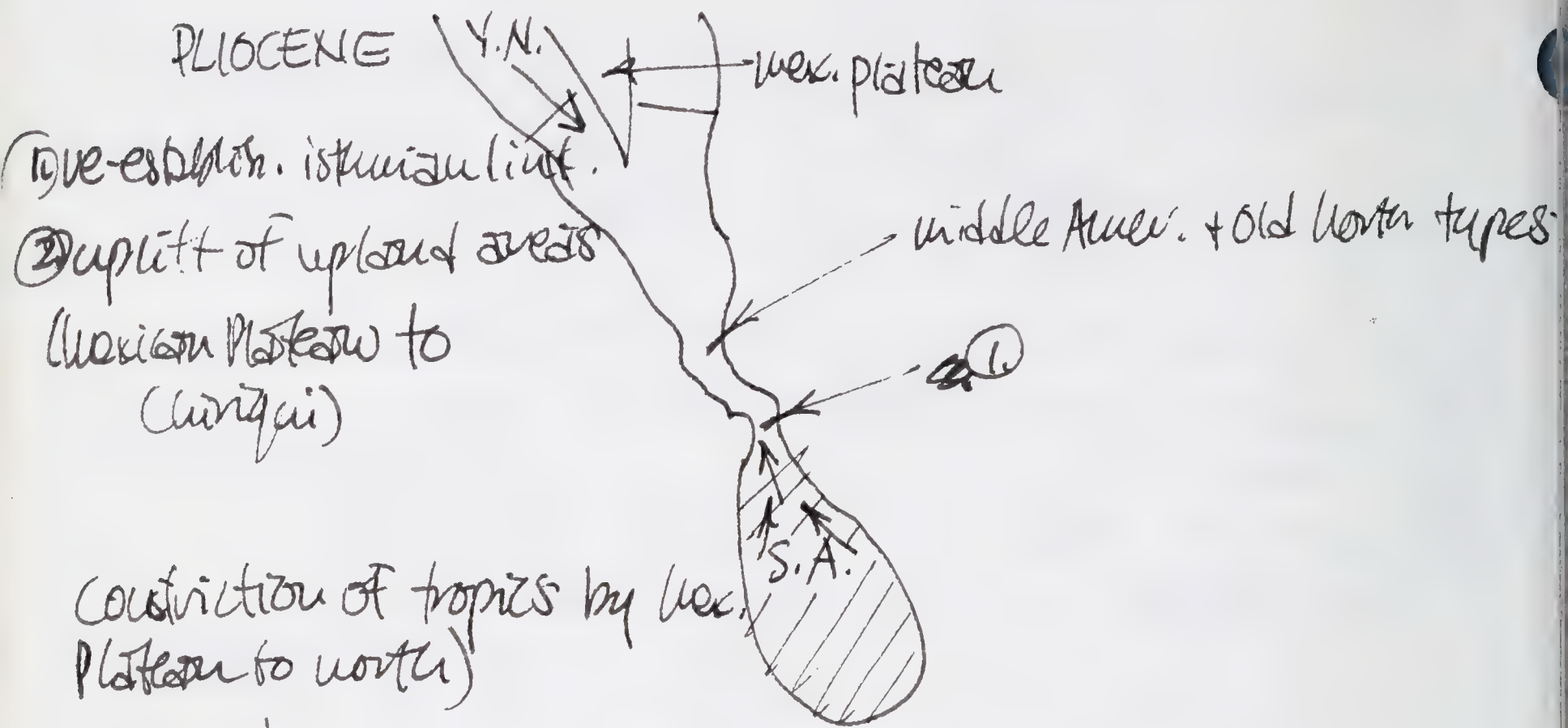
Sceloporus

Cnemidophorus

most of mesozoic, N. Amer. & S. Amer. separate during Paleocene



Neistcene: development of xeric environments



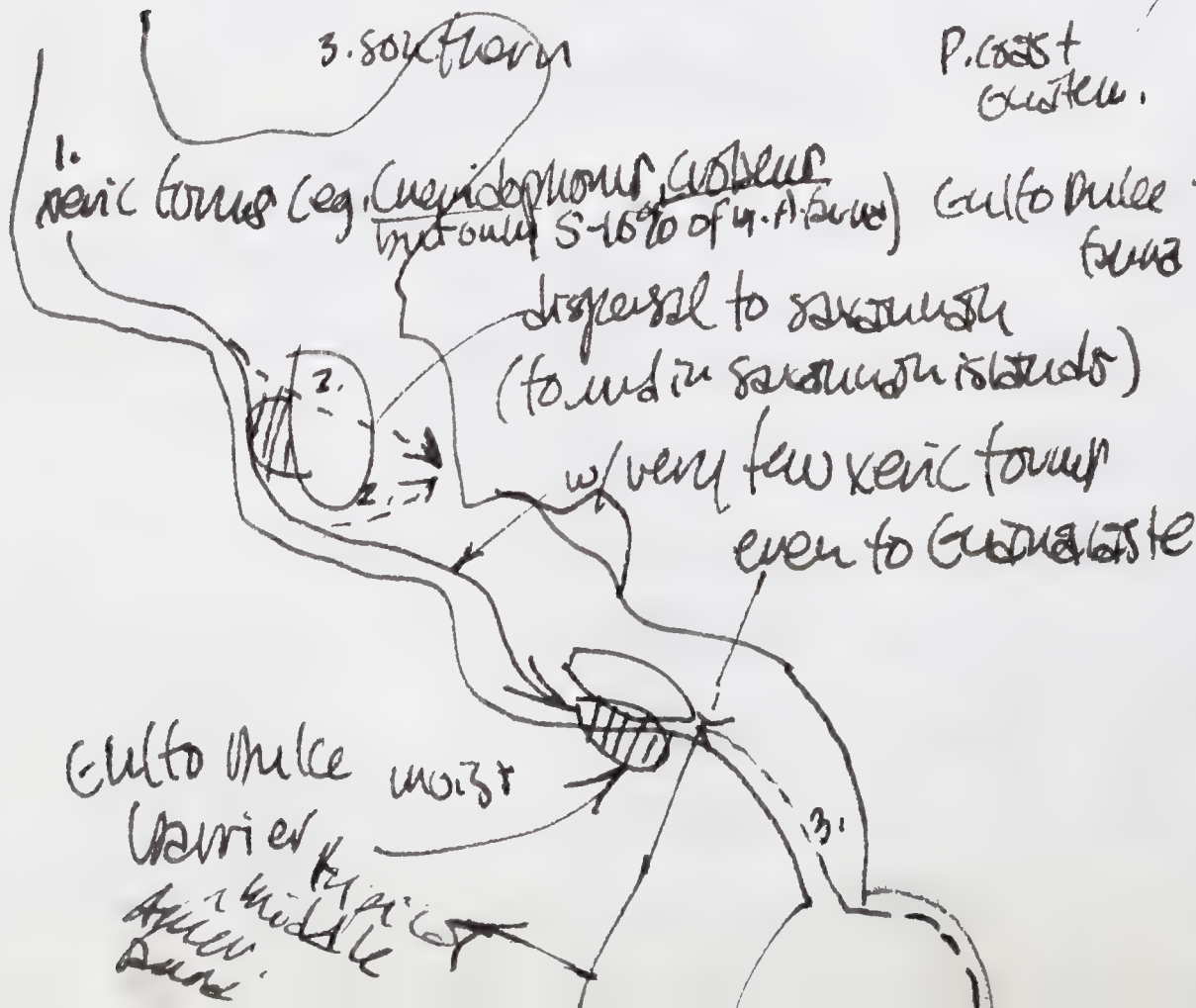
PLEISTOCENE

A. lowland dispersal

① Atlantic lowland route

② Pacific dispersal routes

1. northern
2. subequatorial corridor
3. southern



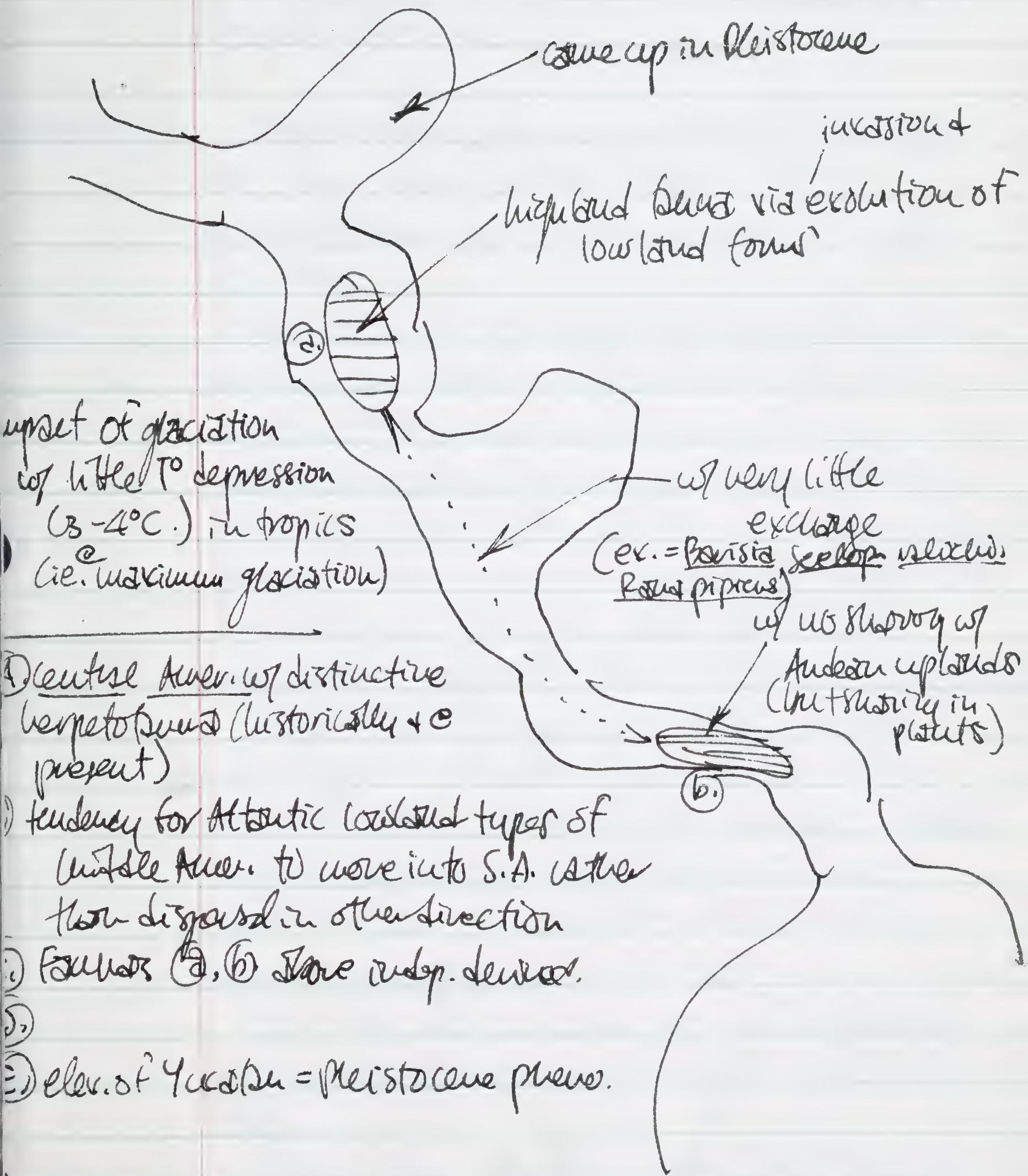
P. coast
Guatemala

(more C. Amer. things
moving south to
S.A. elements
north)

more C. Amer.
up more
evidence for
rather than mixing
of N. & S.
elements

B. Highland dispersal

- (a) northern
- (b) southern



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JOURNAL

14 June

Madera Canyon, Santa Rita Mtns., Santa Cruz +
Pima Co.s, Arizona

Santa Cruz Co.

Camped about 2 mi. beyond Santa Rita Lodge. Left camp about 6:00 AM. Sighted ♂ Scott's Oriole (Icterus parisorum) near base of Santa Rita Mtns.

Pima Co.

Selected a site for can traps @ junction of Madera Canyon road and Florida Canyon (ele. ~ 4000 ft.). Area consists of alluvial plain; predominant plant is mesquite, some barrel and other cactuses. Finally got in 7 cans by ~ 10:00 AM. (see map). Ground varied from almost adobe-like to sandy-silt; but w/ rocks the size of hen's eggs to footballs thru-out. (unpleasant digging).

Sighted lg. ♀ Phrynosoma solare (SJA 183) while digging ~ 8:30 AM. Coming back to trap site from truck after depositing P. solare, sighted sm. Cnemidophorus @ base of mesquite. Ran to truck for gun and shot him @ slightly close range (Cnemidophorus —; (SJA 182)).

In route back to camp, sight ♂ Phrynosoma solare on road near base of Santa Rita Mtns. (SJA 184).

Santa Cruz Co.

Back @ camp near top of Madera Canyon. Hiked up canyon while Sage drove into Tucson for light meter. Climbed up west canyon wall ~ 100 yds. from

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1965

14 June

Madera Canyon, Santa Rita Mtns., Pima-Santa Cruz
Counties, Arizona

bottom + then hiked up canyon, but saw no lizards. Hoosed ♂ Sceloporus^(SJA 185) jarrovi off tree ~ 11:00 am. Snagged a juv. S. jarrovi off rock near camp ~ 11:30 (SJA 186). Both specimens near canyon bottom.

Stream flow intermittent and disappearing ~ 1000 yds. above camp. Aquilegia w/ bright yellow upright flowers found growing on seepsides.

Returned to camp ~ 11:30 to skin Ptychocheilus + Sceloporus for skeletons. Sighted white-throated Swift (Aeronautes saxatilis) wheeling above clearing on cany. bottom. Scared off a white-breasted nuthatch (Sitta carolinensis) from tree near camp while getting out equipment.

While skinning lizards, sighted ♂ S. jarrovi (SJA 187) jumping from rock to rock down the dry stream bed. Caught another S. jarrovi (♀) ~~SJA~~ on rocks around drinking fountain. Talked to some Colorado Nat'l Forest personnel. Described Bipes and one of the three said he'd seen something like that in the "Cherry-cows". Talked to another fellow (1/3 yr. resident) while setting traps @ Florida Cany. Said he'd seen lizard w/ 'vestigial legs' (ie. something like Bipes) ~ 20 or 8 years ago under a mesquite after a rain but up-canyon from where we were (ie. Madera Cany. road + Florida Cany.)

Arnold, Steven,
1965

14 June Madera Canyon, Santa Rita Mts., Pima-Santa Cruz Cos.
Arizona

Nat'l Forest men said Trogons (T. elegans) were nesting up canyon from our camp + asked if we'd heard them (Sage thought he had the wife before). Also reported a bat cave (ie. old mine couple hundred feet deep) @ end of Bog Springs road (ie. dirt road) where some prof. from Calif had taken 'couple hundred common bats + 7 rare ones'.

Finished skins ~ 3:00 PM + hiked back up canyon + noosed 2 more (♂ + ♀) S. jayrovi, both on rocks. Sighted several Mexican jays' (Aphelocoma ultramarina). Whole upper part of the canyon is very reminiscent of Santa Anita Cany. (+ San Gabriel Cany.), San Gabriel Mts. in Calif. Yuccas - oaks, Sceloporus occidentalis, Jays' (Calif.), Phrynosoma coronata, Campopeltis pyromelana vs. zonata make the 2 seem all the more similar.

While I was packed out for an hour, Sage said he'd seen a ♂ Rivoli's Hummingbird (Eugenes fulgens). Paused momentarily above camp table (w/ watermelon) + then flew on.

Left camp ~ 4:30 to put in another group of traps. Sighted several turkey vultures soaring in tree (1) in route down-cany.

Arnold, Steven J.

1965

14 June

Madera Canyon, Santa Rita Mts., Pima-Santa Cruz Cos.
Arizona

Pima Co.

Selected a second trap site; ele. ~ 4600' @ junction of Procter Ranch Road + Madera Canyon Rd. Mesquite thicker (ie denser + more closely spaced) than @ Florida Canyon. Few junipers.

Set traps near stream border (see map.)

♂ Gambel's Quail (Lophortyx gambelii), Blk. Phoebe (Sayornis nigricans), Silky Flycatcher (Phainopepla nitens), a Myiarchus flycatcher sighted.

Sighted a Holbrookia or Callisaurus on dirt road.

Sage shot an adult Cnemidophorus (SJA 189) + saw another @ the trap site. Anuran tadpoles (SJA 188) were numerous in the pools along the stream course.

Many (~50) ^{large} coreid (?) hemipterans were found congregating on a 35' tree along the stream margin. About 15 prs. were copulating; holding on to the under-side of branches. A few (~5) coreids were seen on a n. neighboring mesquite but the majority were either crawling about, resting or copulating on the larger tree.

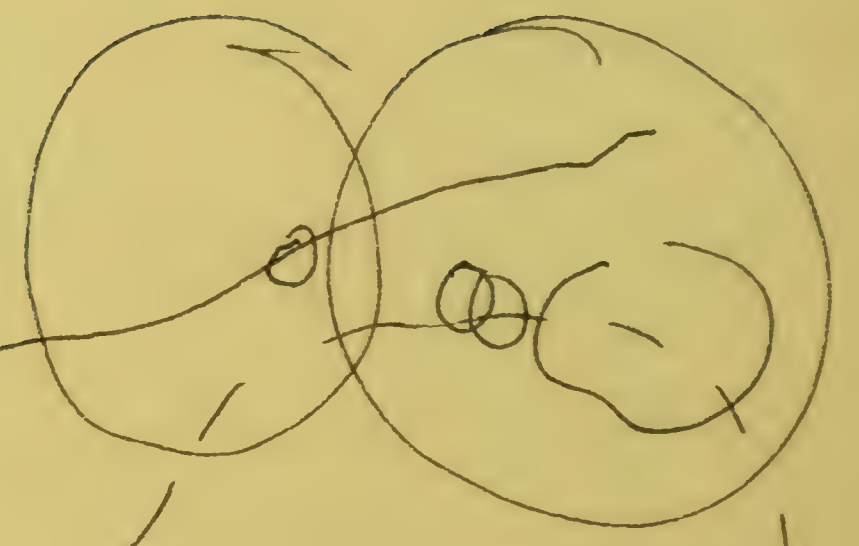
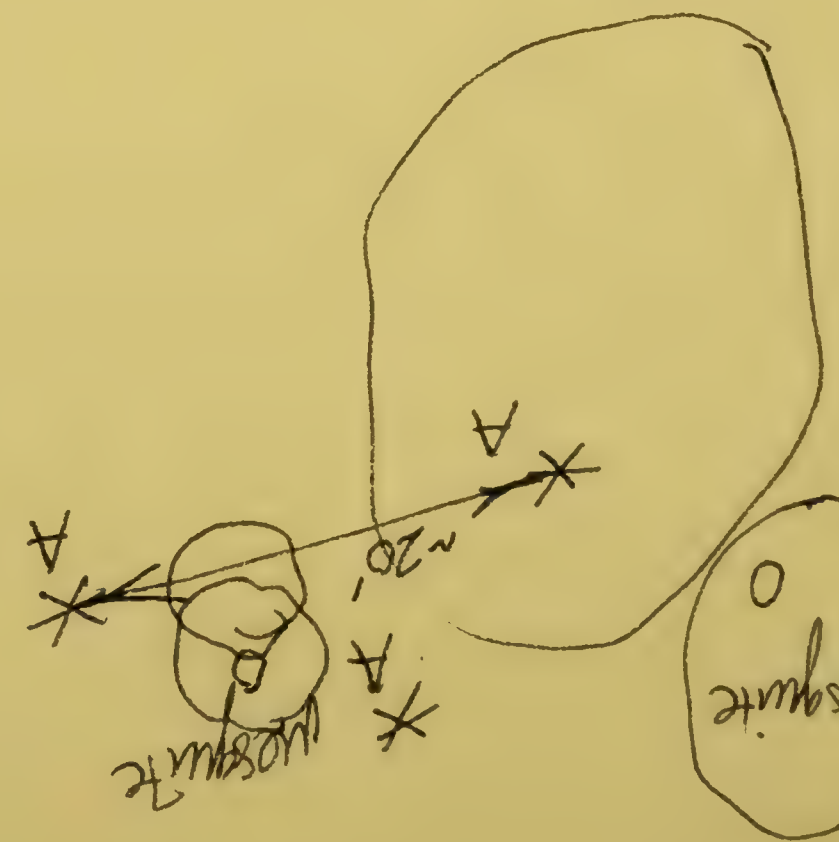
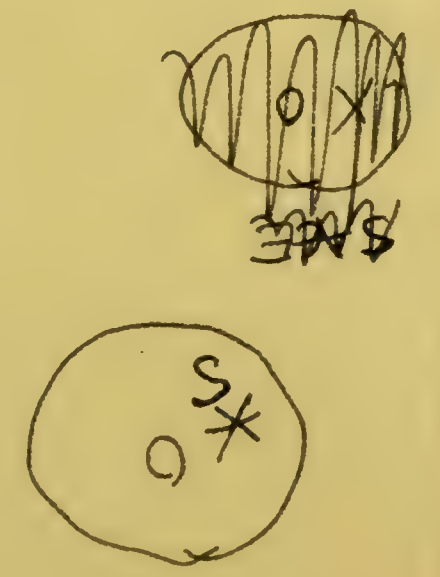
In route back to camp (~8:30 PM) a prairie dog (Neotoma albicollis) wheeled across the road. Several mule deer were sighted.

FLORIDA CANYON
WADERA CANYON ROAD →

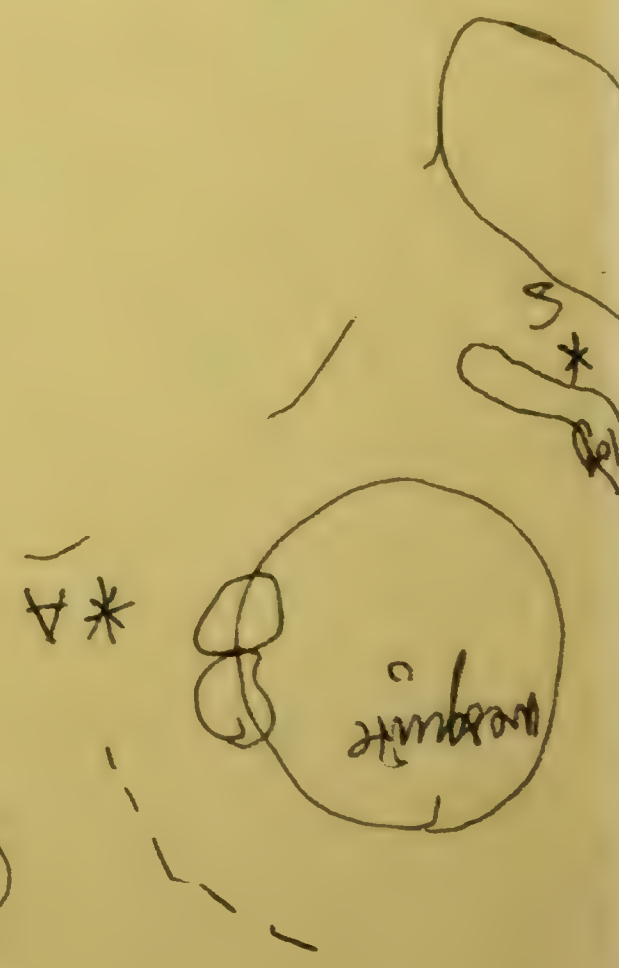
PROCTER RANCH ROAD
cattle guard



stream



SEVEN TRAPS



SEVEN CAN TRAPS
PROCTER RANCH ROAD
SANTA RITA MTS.
PIUMA CO., ARIZONA
14 June 1965

Arnold, Steven W.
1965

15 June

Madera Canyon, Santa Rita Mts., Pima-Santa Cruz
Cos., Arizona

Pima Co.

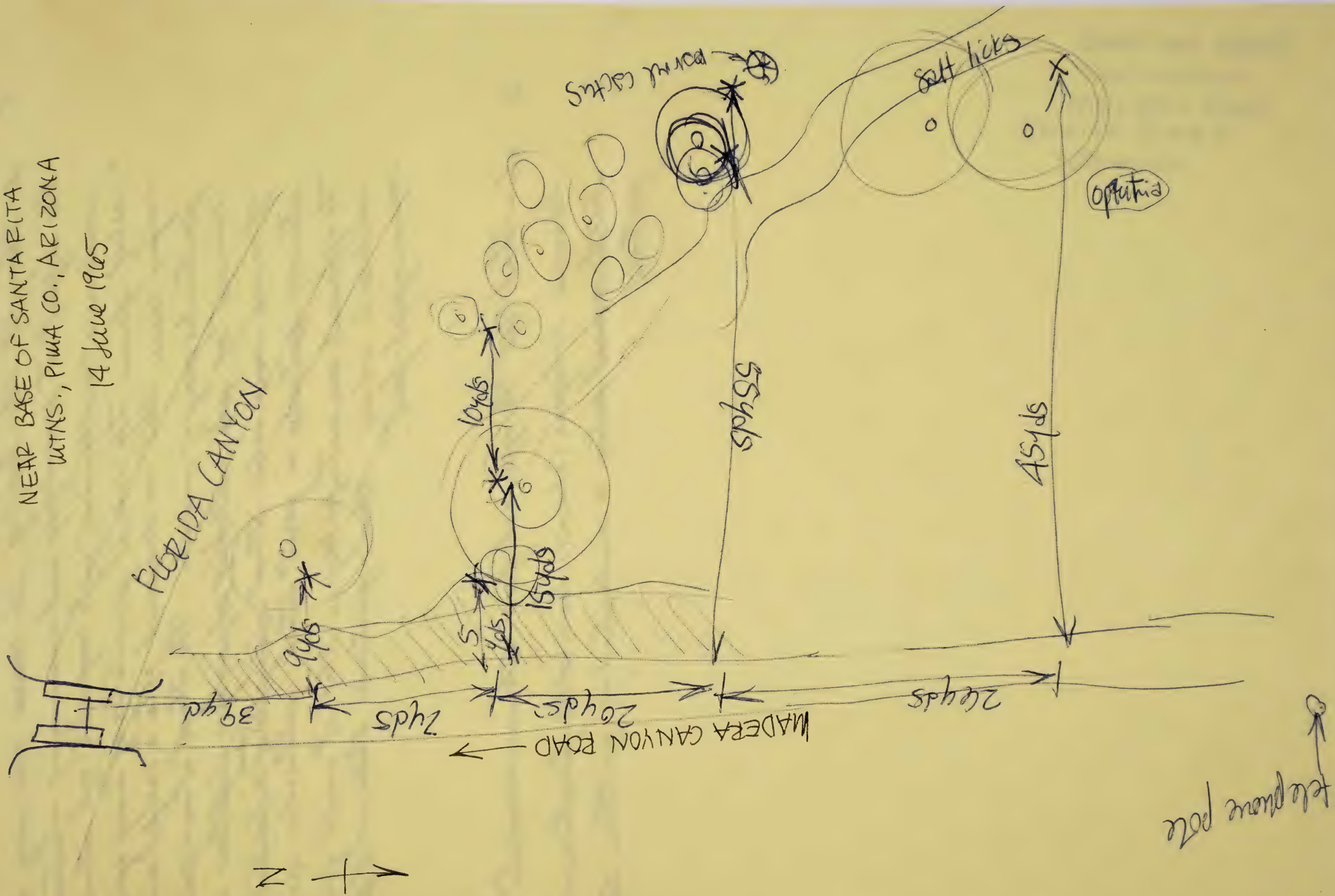
Left camp ~ 6:30 AM to get in a 3rd group of traps. Selected a site on a stream margin and west facing hill slope just north of the (see map) Williams household. Soil was sandy-silt w/ ever-present boulders. Leaf litter ~ 2 cm thick near stream margin. Hill side very rocky + grass covered. Site ele. ~ 5,000 ft. near mouth of Madera Canyon. Prionis (?) larvae (~ 4 cm.) found while digging; 25 cm down in hollowed out root. Set 6 traps.

About 9:30 AM left for Tucson + truck repairs (burning oil like a fiend),

♂ Pyrrhuloxia (Pyrrhuloxia sinuata) flew across road + into mesquite thicket ~ 7 mi. NW mouth of Madera Canyon.

Got oil, STP + did shopping in Tucson; left for El Paso ~ 1:30 PM.

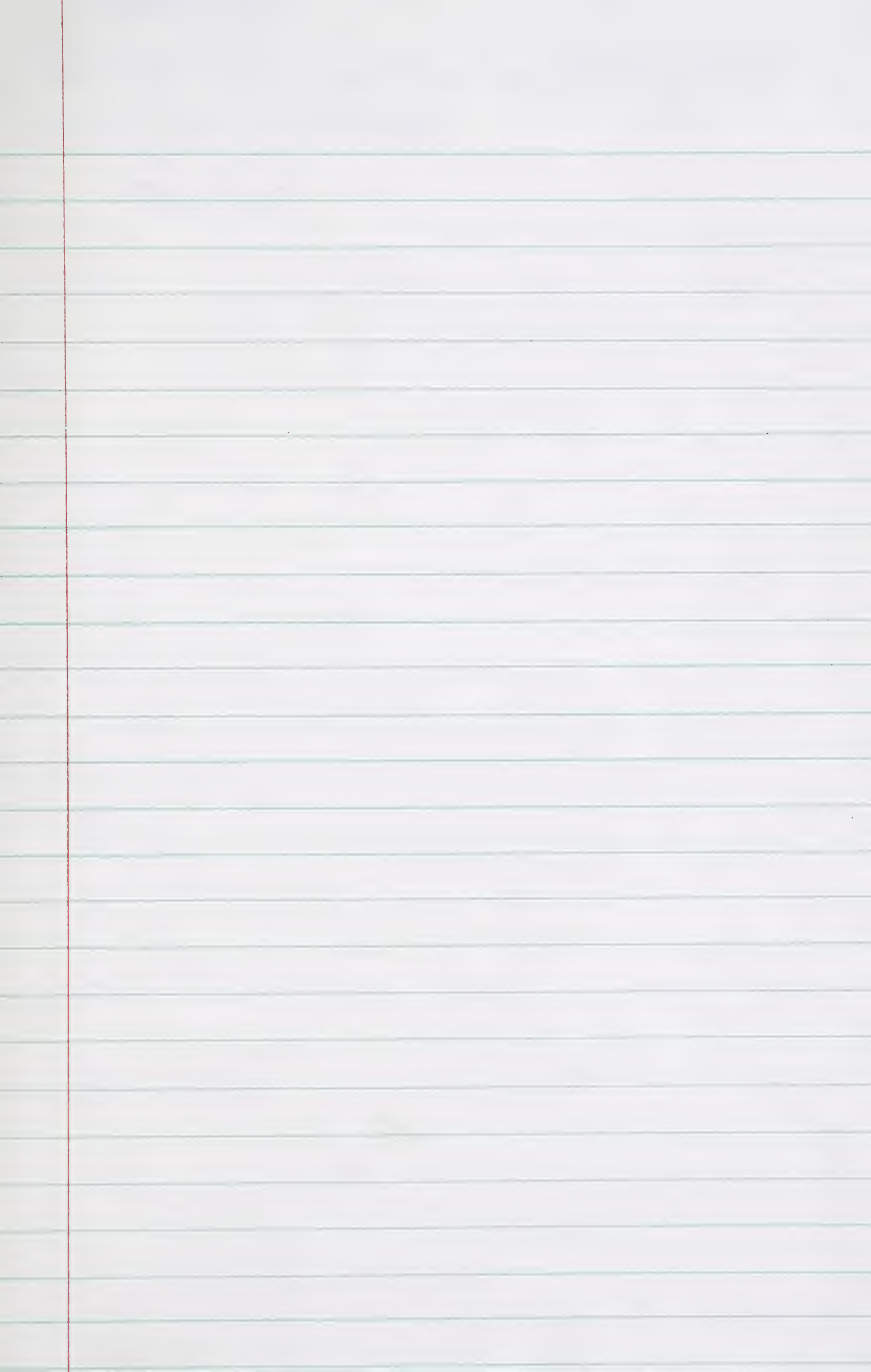
SEVEN CAN TRAPS
NEAR BASE OF SANTA RITA
MTNS., PIMA CO., ARIZONA
14 June 1965

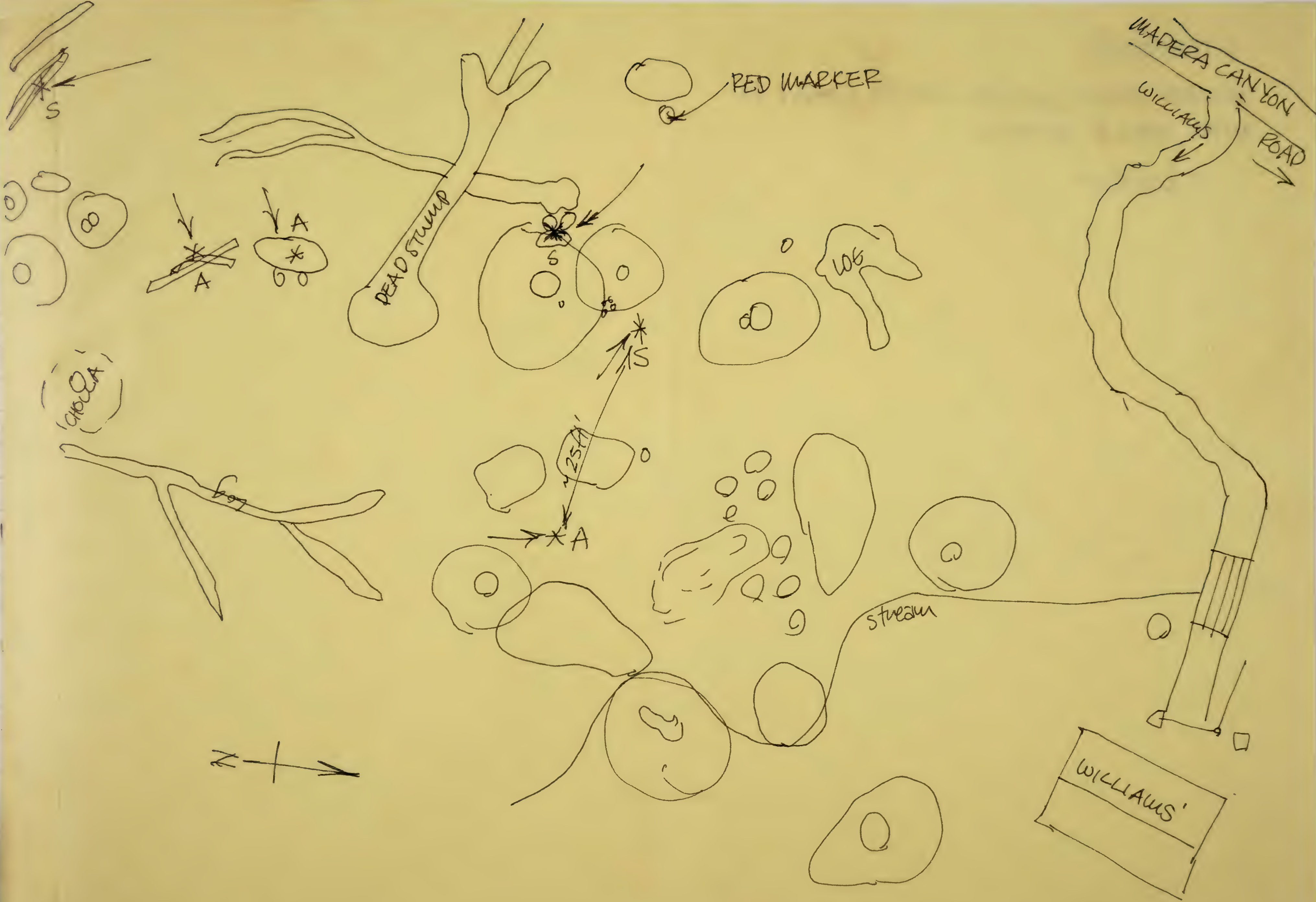


SEVEN CAN TRAPS
FLORIDA CANY.
SANTA RITA MTS,
PIMA CO. ARIZONA
14 June 1965

1. I thought the level of the course was very satisfactory. The effort at generalizing and summarizing material such as endocrine reactions and components and interactions. ~~was~~ This was a relief from the usual presentation of many specific ~~endocrine~~ ^{the} unique cases that are discussed after a careful analysis of a particular group of animals. The attempt at a generalization of the concept of ~~path~~ methods of physiologic adaptation will, I think, be of much more value than ~~examples of individual species~~ ^{than} than always portrayed in past detail particular examples. I think the approach was satisfactory in that it would form the frame-work in which these particular studies will ~~for~~ become a meaningful part.

2. I think that the approach from the environmental aspect is better because everyone (almost) has some familiarity with the better mental picture or understanding of these ~~the~~ more obvious portions





6 TRAPS(CAN)

WILLIAM'S RANCH, WADERA CANYON, SANTA RITA
MTNS., PIMA CO., ARIZONA

15 June 1965

Arnold, Steven J.
1965

15 June Luna - Dona Ana Counties, New Mexico

Luna Co. Caracara (Caracara cheriway)? sighted flying
~ 2 meters above ground; ~ 20 \pm 10 mi. E. of
Deming.

Dona Ana Co. Caracara (?) sighted sitting on fence post
~ 6 \pm 3 mi. W. of Las Cruces.

Dona Ana Co. DOR juv. Pituophis (fresh) @ 6:25 PM, 23 \pm 4 mi.
W. of Las Cruces (RDS 687; 485 mm (418 mm)), 4300 ft.

~ 36 mourning doves (Zenaidura macroura)
sighted between Deming + Las Cruces (59 mi.)

4 Boat-tailed Grackles flew over in 2 groups
(Cassidix mexicanus) ~ 7:00 PM in Las Cruces.

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1965

16 June

State of Chihuahua, Mexico via Mex. 45

Crossed border @ Juarez ~11:00 AM. Between Juarez + Chihuahua saw 10 ravens @ widely spaced intervals. About 6 were in prs. + 4 solitary. Five were seen flying @ close range, all had their mouths open (ie. bill gaping). Two were seen sitting on fence posts; both w/ mouth closed. Reached Chihuahua ~6:10. Raven sighted @ 6:10 flying west w/ mouth closed. Possibly fly w/ mouth open during heat of day for evaporative cooling? One raven was seen drinking from cattle trough. [raven sighted 15 June 1965 between Juarez + Los Chiles N.M. also flying w/ mouth open]

Two condors (?) sighted between Chihuahua + Meoqui.

16 June

15 mi. NW Meoqui, Chihuahua, Mexico

Stopped @ 6:45 to cook dinner. Filled up wash 6' deep x ~20' wide while Sage cooked dinner. Predominant plant in wash = mesquite. Sighted Blk.-Throated Sparrow (*Amphispiza bilineata*) foraging among mesquites. Sighted pr. of Pyrrhuloxia (*P. sinuata*) in wash; ♂ calling.

Twelve night hawks were seen between 6:45 + 7:15 PM when activity was markedly reduced (ie. few <13 individuals sighted after that time).

Arnold, Steven J.

1965

16 June

15 mi. NW Meoqui, Chihuahua, Mexico via Mex. 45

~12 Pepsis sighted; bagged four. 4 individuals were seen flying about a particularly tall mesquite (~7 ft.) but dispersed when I started swinging w/ butterfly net.

Captured juv. Sceloporus on pile of ~~stone~~ bricks. Looks to be S. magister (SJA 190).

Pushed on @ 7:30 PM.

16 June

14 mi. NW Meoqui, Chihuahua, Mexico via Mex. 45

DOR Masticophis flagellum(?) (SJA 191)

16 June

Zuni near Ciudad Camargo, Chihuahua, Mexico via Mex. 45

DOR gravid Thamnophis (SJA 192)

otted skunk, ...

Twenty live rodents + several ~~amphibians~~ seen on road between Chihuahua + Camargo; 7:30 PM - 10:00 PM. Lightning seen off to east but no rain.

16 June

Beco Motel, Camargo, Chihuahua, Mex.

Bequveids (3), cecidomyiids (2), scarabids (5), neuropteras (4), hymenoptera (2), taken on fluorescent motel lites.

Arnold, Steven).

PLS

17 June

Ciudad Camargo to Ciudad Jimenez via road
parallel to + ~ 1 mi. E. Rio Florida (5:30 AM - 6:30 AM)

Chihuahua, Mexico

~300 mourning doves sighted; many Boat-tailed
~~grackles~~ grackles. Six vireos seen flying @ close range
all w/ mouths closed. Three pr. scaled quail sighted.

DOR Arizona elegans taken 20 ± 5 mi. SE
Ciudad Camargo. Surrounding area primarily
agricultural (hay fields).

17 June

5 mi. NW Ceballos, Durango, Mexico

DOR Pituophis melanoleucus. Rostral higher than
wide; not preserved. Looked like ~~sage~~ sage, in poor
shape.

17 June

35 mi. NW Buenejillo, via Mex. Hwy 49, Durango, Mexico

LOR Phrynosoma 19.7 gm., 113 mm. (74 mm.)

R.D. Sage 688. Appears to be coronatum.

17 June

29 mi. NW. Buenejillo, via Mex. Hwy. 49, Durango, Mexico

LOR Sceloporus magister (?) 16.6 gm (80 mm. S-V)

R.D. Sage 689

17 June

22 mi. NW. Buenejillo, via Mex. Hwy. 49, Durango,
Mexico

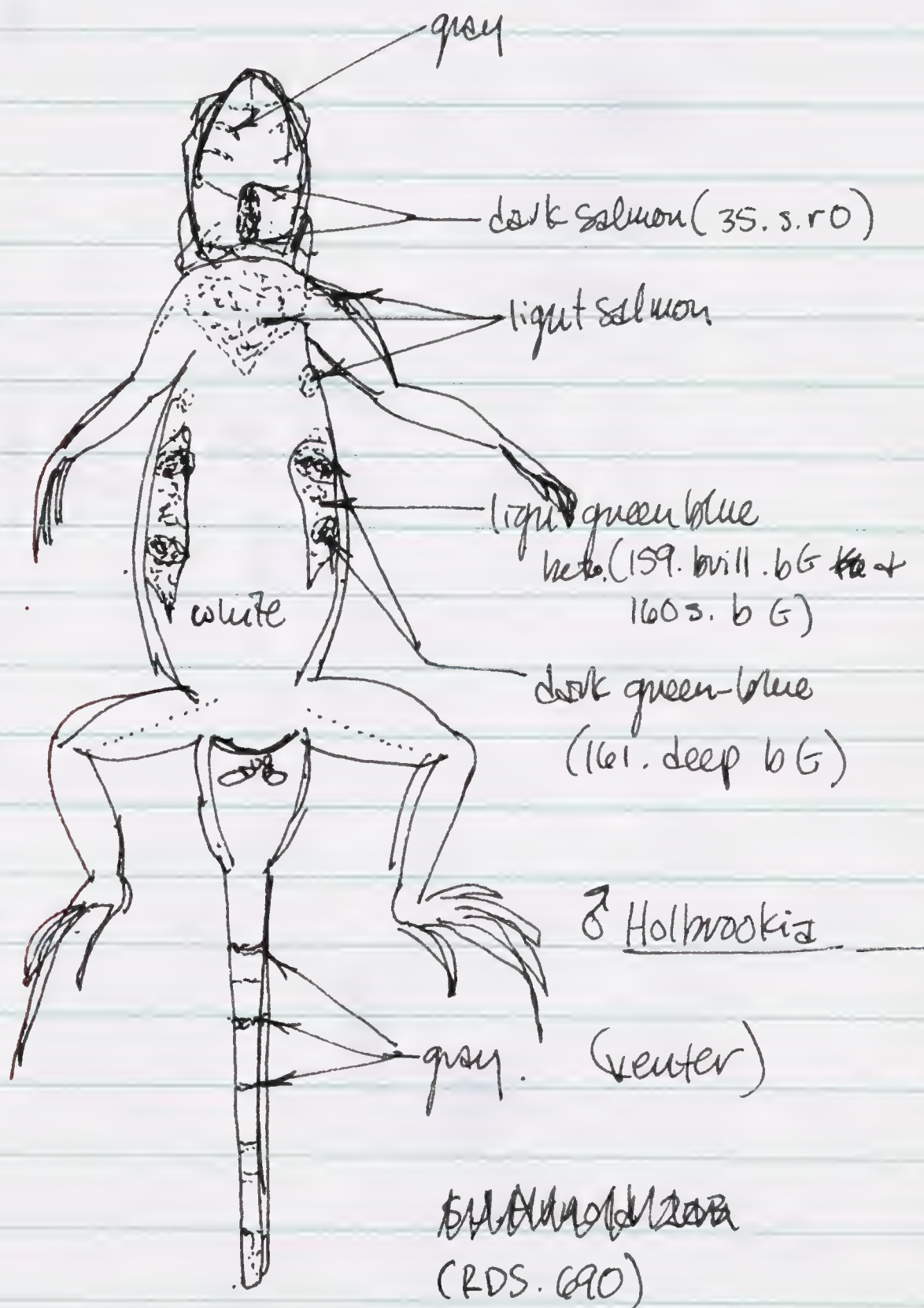
♂ LOR Holmoxia _____ (see color diagram of
venter. R.D. Sage 690)

Wald, Steven S.

1965

7 June

22 mi. NW. Bremejillo, via Mex. Hwy 49, Durango, Mexico



♂ Holbrookia

22 mi. NW. Bremejillo, via Hwy. 49,
Durango, Mexico

11.54 gm. 121 mm (69 mm.) 17 June 1965

add, Stejneger.

1965

6 mi. E. Matamoros, Coahuila,
Mexico, 17 June 1965

SJA 200

♂

S.J. Arnold 200

● = blk.

yellow (82.v.y)

light green yellow
(101.l.g.y)

(134.v.l.yg.) - grading into
gray flecking

LATERAL

light yellow-green (134.v.l.yg.)

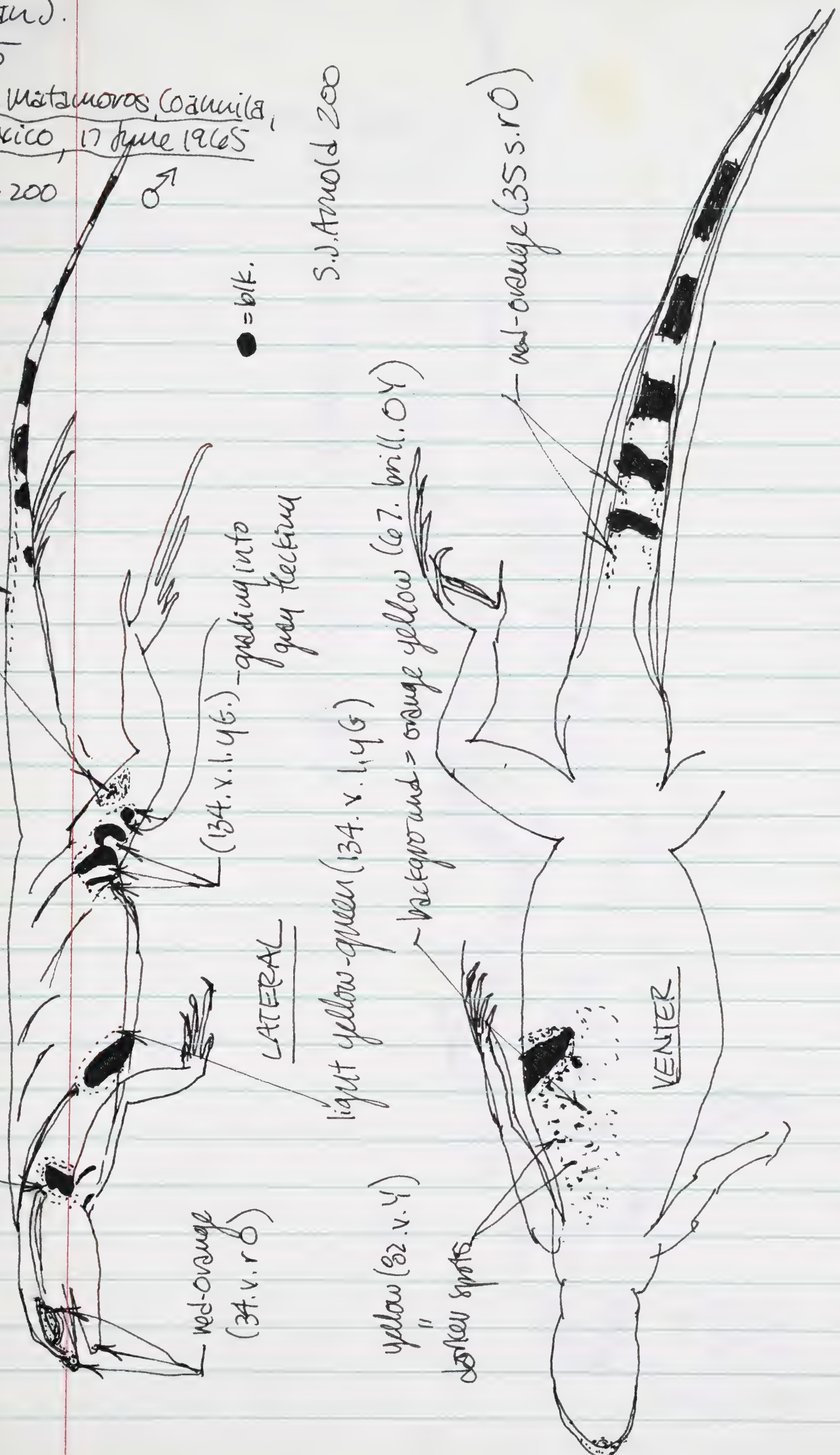
yellow (82.v.y)

dark spots

background = orange yellow (67.brill.OY)

red-orange (35.s.r.o)

VENTER



Arnold, S. J. 1965

6 mi. E. Matamoros, Coahuila,
Mexico 17 June 1965

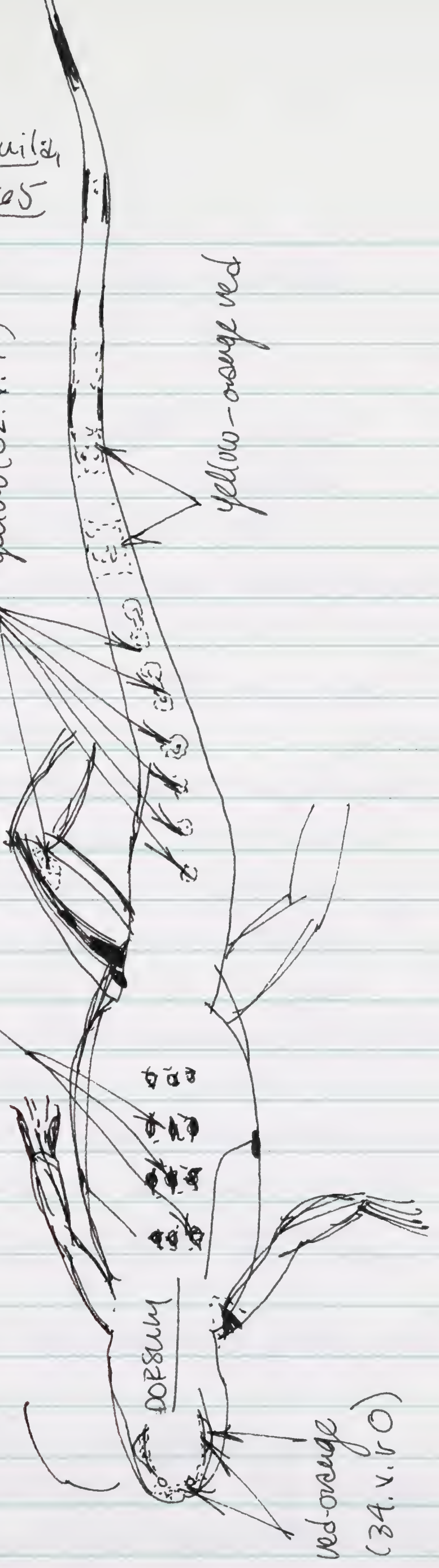
SJA 200 ♂

S. J. Arnold 200

interspaces light yellow green (119.1.v.6)

yellow (82.v.4)

yellow-orange red



DORSUM

red-orange
(34.v.v.0)

Arnold, Steven J.

1965

17 June

6 mi. E. Matamoros, Coahuila, Mexico (11:30 AM - 1:45 PM)

Stopped 1 mi. W of one of Zweifel's Uma exul localities. Uma quite abundant; ~ 30 sighted of which 15 shot (.22 dust shot) + 2 nooted.

U. exul holds tail well above ground while running; curled slightly upward. The 1st one I shot I thought was a Callisaurus until after it was hit; when it stopped running (sub-adult) curled its tail upward + slightly arch, Callisaurus style. One male was observed before being flushed. Came walking out from under a sm. shrub on to hard-pan somewhat stiff legged w/ tail held @ 30° angle, gently curved. The red-orange color of the upper eyelid + rostral region was very conspicuous.

Several times, 3 or 4 Uma were flushed simultaneously. One would be chased to a distant mesquite (?) flushing yet another + so on until we were trying to keep track of 3 or 4 critters. Territory violations?

Of seven stomachs Sage examined, lg. red ants = primary food item.

Locality consists of fine wind blown dunes 1' to 6' high interspersed w/ caked mud-clay hardpan. Mesquites (?) = predominant plant + primary refuge

no comparable interaction observed btw. Uma exul + Cnemid. s.
@ one time the 2 of us were working one time when contained
3 Uma + one Cnemid.. On one occasion during the stalking a
juv Uma + adult Cnemid. stopped w/in 4 inches of one another
w/ no sign of antagonism.

Arnold, Steven).

1965

17 June

6 mi. E. Matamoros, Coahuila, Mexico
for UMS.

- (a) 10 Uma exul preserved whole (S.J. Arnold 194-203)
- (b) 2 Uma exul skinned + preserved for clearing + skinning
- R.D.Sage 691 ♀ 11.1 gm., 157 mm (72 mm) 2+20x8, 4-6 mm in dia.
- R.D.S. 692 ♀ 7.7 gm.; 145 mm (64 mm.); 10x4 mm, 8 mm dia.
- (c) 5 Uma exul prepared for ~~sk~~ skin + skeletons
- RDS 693, ♂ 28.5 gm.; 186 mm (98 mm.); L.T. 8x6 mm
- 694 ♂ 22.1 gm.; 191 mm (86 mm.); L.T. 7x5 mm
- 695 ♂ 18.5 gm.; 169 mm (90 mm.); L.T. 6x5 mm
- 696 11.0 gm.; 156 mm (70 mm)
- 697 14.0 gm.; 183 mm (86 mm.)

♂ Phrynosoma modestum (SJA 206) 4.3 gm.; 73 mm.
(42 mm.) taken ~ 3 inches above ground in sm. dense
shrub, ~ 12:00 noon.

Severe Cnemidophorus _____ sighted;
one shot (SJA 207). While stalking one Cnemid., he (?)
made semicircle of 12" radius while flicking intensely.
Thought @ 1st this gesture was directed @ me but
found instead a Crotaphytus wislizeni among
mesquite (?) bushes @ center of Cnemid. semicircle.
Two C. wislizeni taken (SJA 204-205) + 2 others
sighted. #205 has particularly lg. stomach mass.

While I shot, Sage got a few body temperatures
on U. exul. Extricating shot Uma from mesquites
in time for valid weighing was a major problem,
vicious spines.



old, Steven,
1965

7 June

6 mi. E Matamoros, Coahuila, Mexico

Got 3 readings w/in 5-10 sec. ;

SJA 196 cloacal temp. 38.2°C ; ^{air} ~~sand~~ temp. 36.4°C

SJA 200 " " 38.0°C " " 36.4°C

SJA 201 " " 38.4°C

(S=) Air ~~sand~~ temp recorded by shading site ^{w/ hand.} where Uma shot & taking reading ~1" above sand. Schultzeis - quick reading thermometers used turn-out.

Buprestids ~ 1 cm long, pale green & pollen covered were abundant on creosote bushes (~ 1/100 th as common as mesquite). Took 4.

Pushed on to Saltillo. Got motel for Geopcos.

17 June Paila to Saltillo, Coahuila, Mexico; 81 mi. via Mex. Hwy. 40

About 4:30 PM - 6:00 PM; intermittent showers. Road appears to follow the axis of ~~active~~ anticline @ least 100 mi. long stretching from Saltillo ~~to~~ W. Dips on each side of road ~ 20 mi - 10 mi. W. Saltillo between 30° - 60° . Lg. tarantula taken on road between showers @ 5:05 PM.

Arnold, Steven.

1965

18 June

Camped about 8:30 PM, 16 mi. N. Queretaro, Queretaro, Mexico. ←

Found 4 live snails w/ elongate spiral shells (~ $1\frac{1}{2}$ cm. long.); shell background color = white, striped w/ brown along axis of shell. Bkct lited for about 2 hrs. Brought in vast numbers of one species of earwig and sm. blk. "gnats"; One lg. yellow Saturniid w/ maroon stripes, several fireflies. (snail found by lite of Coleman (stem stuck to mesquite branches 1-2 meters above ground; sealed to branches w/ mucus.)

19 June - 16 mi. N. Queretaro, Queretaro, Mexico 6:30 AM - 7:30 AM

Sighted Vermilion Flycatcher (Pyrocephalus rubinus) ♂ and pr. of Cactus Wrens (Campephilus mexicanus). Surrounding area desert; mesquite, (mimosa?), cactuses (Sacchara, — — —), ground littered w/ volcanic pebbles.

Arnold, Steven.

1965

18 June

3 mi. NNW San Roberto, Nuevo Leon Mexico

LOR Phrynosoma _____ (SJA) ele. 5700 \pm 100'

1:45 PM

18 June

1 mi. N. Saucedo, Guanajuato, Mexico

DOR albino Pituophis in very poor shape; pink eyes, dorsum mottled pink & yellow: not preserved.

19 June

12 mi. E. Queretaro, Queretaro, Mexico -

Stopped to eat breakfast. Found 2 subadult Sceloporus under volcanic boulders. Subadult Rhachipipiens (211) found hopping on caked mud under bridge. 7:00 AM

19 June

~~21 mi. E and 2 mi. S. Mexico City,~~ 26 mi. E and 2 mi. S. Mexico City,
Mexico, Mexico; ele. 10,200 \pm 50

Stopped to eat lunch + collect for 1/2 hour. (11:00 AM - 11:30 AM). Found a plethodontid under 2' dia. volcanic boulder. Sage found another salamander of same type inside a rotten log. (RDS. 698 + SJA 212). ~~84~~ Bunch-grass on hillside surrounded by pine forest - Sceloporus (SJA 213) scrambled off into grass but was caught. Mexican juncos, Robin, bluebirds sighted. About 95% overcast w/ intermittent rain.

19 June

4.3 mi. WNW Tamazulapam, Oaxaca, Mexico

Leptodeira-like snake taken LOR (hit by our car)

@ 7:50 PM (SJA 214). Taken on road (Mex. 190) opposite the Rio del Oro hydro electric plant.



JOURNAL

19 June 4.3 mi. W.N.W. Tamazulapam, Oaxaca, Mexico

SSA 214

color description

~~dark-dk~~ middle of dark dorsal blotches = ~ 59. d. Br.

inter-blotches = ~ 26. l. y. ~~brown~~ Br.

W. in ~ 11:00 PM. Sm. toad (RDS) taken earlier in evening while blk. lighting.

20 June 1 mi. S.E. Tamazulapam, Oaxaca, Mexico

~ 12:00 noon - Sm. Uta or Sceloporus taken on limestone boulder (♂)

(SSA 215). ~~color~~ light blue-green (163. l. bG)

dorsal blotches (pointing posteriorly). Ventral & belly blotches (163. l. bG.). Eular blotches blue (182. u. Blue)

Tail, ventro-lateral color = 163. l. bG. jumped from boulder to sm. rock + then to another rock when

[overcast, intermittent rain. Sage got up @ 5:30 AM, I made it out by ~ 7:30 AM.]

approached but did not take cover, when approached. Bobbed just before being noosed. Body raised vertically from rock surface by extension of both fore + hind legs. Secondary bob after maximum extension then ~~returned~~ returned to flat posture on rock. I wasn't aware of any lateral flattening - curious since prominent belly blotches (light blue green are present + blue gular blotches. Bobbing may not have been representative of normal courtship pattern but merely a nervous response to my approach.

Three Sceloporus (stocky, very scaly; between S. occidentalis + S. lugubris in size) were sighted

Arnold, Steven

1965

10 June

1 mi. SE. Tancitaro from ~~Atlix~~ Oaxaca, Mexico
but were very wary + I couldn't get w/in
hoose length of them (retreated among limestone
boulders).

7:30 AM - Overcast w/ intermittent showers. Hiked thru Chaparral-
like plant formation watching birds. Sighted
10:30 AM 3 Red-eyed Towhees (Pipilo erythrophthalmus),
~10 Mourning Doves (Zenaidura macroura), 4
Blk.-Chinned Sparrows (Spizella atrogularis), 2
Turkey vultures, 2 wrens (~~steel~~ blue-gray dorsally w/
white or pale venter), 6 White-lored Gnatcatcher
(Polioptila albiloris), 1 Scrub-jay (Aphelocoma
coerulescens). Sage shot 1 Oaxaca sparrow
(Aimophila notosticta) + 1 brown towhee +
sighted an bellated Tanager (Troxostomus
bellatus, road runner (Geo. californicus)
and the above ^{species}. An unidentified warbler
(gray dorsally w/ green-yellow venter) + group
of 3 sparrows (probably Aimophila sp.) also
sighted.

Locality is very reminiscent of southern Calif.
chaparral. Low hills w/ limestone exposures +
scattered limestone rocks + boulders, Arctostaphylos;
woody spiny-leguminosae very prominent
(various species). Clusters of a gray-green, slender
leaved epiphyte were found in ~~branches~~ ⁱⁿ many of bushes.

Wald, Steven J.
1965

20 June

16 mi. N.W. Oaxaca, Oaxaca, Mexico (4:00 PM - 4:45 PM)

Made 2 stops to collect insects on plants growing ~~near~~ on roadside. At each stop collected for ~ 100 yds. on both sides of road. Surrounding area low hills, sparse vegetation, agricultural; dominant wild plant, away from roadside = woody spiny leguminosae.

At 1st stop made general collection of conspicuous forms; w/out specific notice taken of host plant but majority of collecting done off of SJA Bot. #3 (_____), herbaceous plant to 2 meters high w/ lg. entire bright-green lvs. [particularly attracted Chrysomelids, Coccinellids & Lygaeids]; SJA Bot. #5, ax white flowered Asclepiadaceae w/ inflorescence ~ 3 inches indist. to ~ 18" high.

A 2nd stop was made ~ 500 yds. down the road. Sage concentrated on SJA Bot. #5 (_____) while worked on a purple flowered Solanaceae w/ erect yellow stamens, ~ 12" high (SJA Bot. #4, _____).

Of all the insects collected on the asclep., only ~~four~~ ^{five} species had pollen sacs adhering to their legs; a lg. ^{hairy} Sphexid wasp w/ 2 bright orange abdominal segments had about 20 pollen sacs stuck to legs & abdominal hair on es. of 4 specimens collected; one of 2 specimens of a lg. ^{iridescent} metallic blue Pezomachus (Pompilid) had 10 pollen sacs on 4 front legs;

Arnold, Steven.

1968

20 June

Humi. N.W. Oaxaca, Oaxaca, Mexico

superficially -
probably = major
pollinator of SJA Bot. #5
Asclep.

smaller

9 specimens (of 12 collected) of a iridescent blue
Pepsis w/ orange wings had an average of ~4
pollen sacs/individual; one specimen of Lygaeid
hemipteran (of 6 collected of that species) had one pollen sac
stuck to tarsus of hind leg; and one specimen of
hairy wasp (only one collected of that species) had ~12
pollen sacs (legs + abdomen).

Despite great species diversity on each of
plant species examined one or more dominant
insect species (ie. >5 individuals on each plant
examined) were conspicuous. Eg. A cynipid
(Acc. #2 SJA) on a low growing, spiny leguminosae;
a yellow & green chrysomelid (2.) SJA Acc. #1 on a
solanaceae (SJA Bot. #4); a chrysomelid (2.) w/ blue-green
abdomen & orange thorax & head (SJA Acc. #2) on SJA Bot. #3;
(RDS Acc. #1 + SJA Acc. #2) a lygaeid w/ blk. hour glass on dorsum & prominent
blk. transverse band all on orange-red background
occurring on an asclepiadaceae (SJA Bot. #5).
[see chart].

Gold, Steven J.
1965

20 June: 16 mi. N.W. Oaxaca, Oaxaca, Mexico

SPECIES DISTRIBUTION ON
HOST PLANTS

		RDS Acc. #1 on SJA Bot. #5	SJA Acc. #1 on SJA Bot. #4	general collection SJA Acc. #2
<u>emiptera</u>				
eidæ	a	5 (*)	1	7
"	b	2	1	1
"	c	2	1	3
atidæ		4	—	2
viidæ		—	1	—
<u>leoptera</u>				
abidæ	a	—	2	2
	b	—	1	—
rauhionidæ	a	—	1	1
	b	4	—	—
<u>elids + Chryso-</u>				
s	a.	3	—	2
	b.	2	2 4	3
	c.	1	—	—
	d.	2	—	1
	e.	—	(*) 15	3
	f.	—	2	5
	g.	—	1	—
	h.	1	—	—
	i.	—	1	—
	j.	—	1	—
	k.	—	1	—
lampyrid-like		7	1	—
an weevil		1	—	—
menoptera		7 species	—	2 species

Ed, Steven J.
1965

20 June: 16 mi. N.W. Oaxaca, Oaxaca, Mexico

SPECIES DISTRIBUTION ON
HOST PLANTS

	RDS' Acc. #1 on SJA Bot. #5	SJA. Acc. #1 on SJA Bot. #4	general collection SJA. Acc. #2
<u>Hymenoptera</u>			
Pompilidae	a. 2	—	?
	b. 12	—	?
Sphecidae	4	—	?
Diptera ~ 7 species		—	2 species
Elmidae a. 1 species		—	—
" —→			
total species ~ 37		18	~ 40
species overlap			

↑ 5 ↑

↑ 7 ↑

← 10 →

add, Steven).

1965

21 June

Oaxaca to Tehuantepec, Oaxaca, Mexico via Mex.

Hwy. 190

Sighted a group of Inca doves outside motel room
@ Oaxaca Courts, Oaxaca (Scardafella inca).

Arid tropical thorn-scrub grading into tropical
deciduous in lowlands - sighted

Motmots (3) Motmotus mexicanus

Maggie jays (4) Ortalis vetula

Lesser Road-runner (2) Geococcyx velox

Kiskadee Flycatcher (1) Pitangus sulphaster

Blk. Vultures (~36) Coragyps atratus

Turkey Vultures (~24) Cathartes aura

several adult Cnemidophorus + ~24 Cnemidophorus

21 June

Vicinity of Tehuantepec, Oaxaca, Mexico

Lush roadside vegetation (Palms, jacarandas,
woody-sprig leguminosae...) - rainwater accumulated
in roadside ditches. Sighted

Boat-tailed Grackles - Cassidix mexicanus

Goose-billed Ani - Crotophaga sulcirostris

Common Equeet (1) Casmeroides albus equeeta

Roseate Spoonbill (1) Ajaia ajaja

several flocks of parrots

21 June

4 mi. E. Tehuantepec, Oaxaca, Mexico

Collected in & about the ruins of a brick house:
surrounding area flat plain w/ numerous spring
legumin. ~ 2-3 meters high.

21 June

4 mi. E. Tehuantepec, Oaxaca, Mexico

Sighted

Orange-fronted Parakeets (*Aratinga canicularis*) numerous

Blk.-throated Oriole (2) *Icterus gularis*

Green-billed Ani (3) *Crotophaga sulcirostris*

Tropical Mockingbird (2) *Mimus gilvus*

Turned bricks + rocks on ground in and about house: Found 59 specimens of a medium sized scorpion (Cephalothorax = average of ~3cm.; total length averaged ~9cm) - a long legged species w/ extremely long abdomen. Even w/ long forceps specimens grabbed @ mid body (cephaloth.) almost struck the end of my forefinger; 3 ♀♀ were carrying young on their backs; 24 specimens of a Centruroides-like Scorpion (_____) (shiny blue-black cephalothorax averaging 2cm; total length 4 1/2 cm.); 13 ^{gray} amblypygids (?) (cephalothorax 7mm; total length 15mm.; total span of 1st walking legs (greatly elongated) = 120mm on the largest specimen); 6 scutigerid centipedes (12mm. long); 3 green-brown scolopendromorph centipedes; 2 roaches (blk w/ antero-lateral orange red stripe); 3 phalangids (short legged; red-orange body w/ transverse white stripe). Scarabeid larvae were commonly found in excavations under rocks. Isopods found in same situation as above scorpions + amblypygids.

Arnold, Steven W.
1965

21 June

4 mi. E. Tehuantepec, Oaxaca, Mexico

Amoeban snake (Leptotyphlops or Typhlops)

(RDS 702; 149 mm (137 mm)) was found under a rock. Under-rock situations: soil moist thruout but scorpions most numerous in slightly elevated x dunes.

Crevices ~~in~~ between bricks of those remaining walls harbored:

Sphaerodactylus (RDS 703-705)

Phyllodactylus _____ (RDS 706-711)

Latreutes

1 g. tarantula w/ red-lined abdomen (1)

scorpions (of the ^{we have mentioned} "long legged" species)

♀ pygmy opossum w/ 6 hairless young
(RDS 712) (RDS 713-718)

The latter opossum was found in a north-facing recess ~ 2 1/2" x 2 1/2" by 5 inches deep in a brick wall ~ 4' above ground. Resisted being extricated w/ stick by snarling, biting, kicking w/ hind feet w/ back against corner of recess. Recess was partially filled w/ sticks and other debris. Venter light yellow; gray dorsally; Eyes blk., orbitals blk. The tarantula was found in a similar recess.

Scorpions were found in a crevice ~ 2" above ground. One gecko egg was found in a crevice.

1965

21 June Tehuantepec, Oaxaca, Mexico

Took room @ Hotel ~~the~~ Tehuantepec for 80 pesos.
Sage talked to resident (part of year) businessman
who reported 'a man had collected ~~a~~ some toads
w/ pointed noses along the Tehuantepec River a
couple of days earlier.' Possibly Phrynosoma or
Disglossus?

Took a lg. scarabeid, several cicadids, a green flying
blatellid + various beetles from wells beneath hotel
lights, (1) amblyoptera (SJA Acc. #3)

22 June Tehuantepec, Oaxaca to Zanatepec, Oaxaca, Mexico

Medium sized green lizards (Ameiva or Cnemidophorus)
abundant on road. C. ascaris (2), orioles (~10),
turkey vultures, blk. vultures, turca doves sighted
sighted. DOR Boa constrictor (~4') @ Zanatepec.

22 June 10 mi. ENE Tehuantepec, Oaxaca, Mexico

Shortly after entering lush tropical vegetation
sighted casque-headed iguana (probably Basiliscus
vittatus) on rock.

Crossed Mexican (Tehuacan, Michoas) - Guatemalan
Border (El Carmen) ~ 5:30 PM. Guatemalan authorities
had us unpack the whole truck.

Wald, Steven J.

1965

(none collected)

22 June

↑
vicinity Coatepeque, Guatemala 7:00PM - 10:30PM

Began raining ~ dusk (5:30PM). Anurans very numerous on road from 5:30PM - 7:00PM. Ate dinner @ Coatepeque + drove road w. of Coatepeque from ~7:30 - 9:00PM. Frog + toad activity had noticeably slackened off although there was still intermittent sprinkling. During this period only one hylid was seen which had not be hit by cars; all anurans taken were DOR or near DOR.

The first ² specimens taken were caecilians (Eumecurus m. mexicanus) * + subsequently a 3rd.

SSA 216; 1.1 mi. w. Coatepeque, Guatemala

" 217 " " " "

" 218 S.S. mi. w. Coatepeque, Guatemala.

SSA 216 was hit but still alive while 217 + 218 were DOR. In the course of the evening 2 other DOR Eumecurus were seen but were ~~DOR~~ in very poor condition.

Several DOR + near DOR Bufo marinus + Rana pipiens were seen. Two R. pipiens were preserved

SSA 223; S. 2 mi. w. Coatepeque, Guatemala

" 228; 1.4 mi. " " "

Two DOR snakes were taken; an Imantodes

(SSA 222) 860mm. (563mm.) ♂ @ 4.7 mi. w. Coatepeque, Guatemala + a Leptodeira (SSA 221)

573mm. (471mm.) ♂ @ 3.9 mi. w. Coatepeque, Guatemala

Arnold, Steven J.
1965

22 June

vicinity of Coatepeque, Guatemala ^{pm} 7:00-9:30 PM

A ♂ Smilisca baudini (SJA 219) which had apparently been hit; left eye badly hemorrhaged taken @ 8.8 mi. W. Coatepeque, Guatemala: a Bufo (SJA 220) near ROR taken @ same locality.

Returned to motel in Coatepeque (Virginia Hotel) about 9:00 PM & looked for frogs on motel grounds. As I approached a pig pen situated @ back of grounds I noticed a medium sized bat (~6" long) hang upside down on the cement wall inside the pen. (Desmodus?) I circled around the pen hoping to nab it w/ a lg. cyanide bottle but by the time I'd reached the other side & had my head lamp lite on the spot again it was gone. [pen was occupied by one pig.]. Still sprinkling intermittently; found ♂ Smilisca baudini sitting in rain gutter on side of pig pen. A juvenile Basiliscus vittatus (SJA 224) 283 mm (snout) was found clinging to the cement wall on outside of pen, asleep.

Two sm. lizards were taken (_____
SJA 226-227; one on a rain soaked ledge row & the other climbing up a stucco wall.

23 June 1965 12 \pm 5 mi. WNW. Acajutla, El Salvador
found POR *Conopus* — (SJA 244)

1965

23 June

Cotapeque to Santa Lucia, Guatemala 6:00AM - ~10:00AM

Seven DOR caecilians (probably Gymnophthalmus mexicanus) sighted on road. The mileages for S were recorded (the last S)

- (1) 1 mi. E. Mazatenango
- (1) $S \pm 3$ mi. E. Mazatenango
- (1) Puente Mocho
- (1) 7 mi. E. Puente Mocho
- (1) 8 mi. E. " "

White-necked swallows (?), Groove-billed anis, parrots, doves, blk. vultures ~~sighted~~, (4) Magpie Jays (4) lg. flycatchers (1) hawk sighted.

23 June

Santa Lucia to Escuintla, Guatemala

Sighted, Forked Flycatchers, a lg. yellow-vented flycatcher, more anis, sm. yellow-vented warbler.

23 June

6 mi. \pm 2 mi. SW. Escuintla, Guatemala

Basiliscus vittatus COR

23 June

Reached Guatemala-El Salvador Border ~ 3:30 PM. El Salvador authorities graciously bid us unload everything in the dump truck.

Got to El Salvador-Honduran Border ~ 8:00 PM. Agreed to give Honduran soldier ride to Nicaraguan border in exchange for no search of car. Reached Honduran-Nicaraguan Border & packed out ~ 11:00 PM.

mold, Steven

1965

JOURNAL

24 June

Nicaraguan-Honduran Border (between San Marcos de Colón, Honduras + Somoto, Nicaragua)

Got up @ 6:30 AM. Sage netted a Xylcopa (?) visiting white flws. along roadside + found a ♂ Crotalus inside a dried herbaceous stem. Crossed border ~ 7:00 AM

24 June

3 mi. N.W. La Trinidad via Hwy. 1, Nicaragua, ele. 2500 ft.

Stopped for lunch. Sage caught a ♂ Sceloporus variabilis (719 RDS, 155 mm (60 mm)) on a volcanic boulder

24 June

30 ± 10 mi. N.E. Managua, Nicaragua

Found what appears to be an Elaphe sp. DOR. Head has been mashed repeatedly (found ~ 10:00 AM).
one Remaining pupil elliptical; double row caudal scales; no loreal pit; remains of colubrid head scalation.
245 SJ Arnold, 1400 mm. (1166 mm.)

24 June

30-50 mi. SE. Liberia via Hwy 1, Guanacaste Prov., Costa Rica

LOF Imantodes _____ 720 RDS (skin + skull.)
703 mm (508 mm.) ♀ w/ 2 eggs

7:15 95 Lampnopolitis

7:30 700 Pituophis

7:35 706 Trimorphodon

7:45 713 Arizona

721 turn off Benjamin Hill

(midway) 93.8

~~115130 E. 141.45~~

Tuxpan 98.8

4.5 mi. S.E. Tuxpan, Tlaxcala, Mexico

Way 920 (Hwy 1)

Lampnopolitis + Crotophaga	: 26 mi. S. Benjamin Hill, Soqras
Pituophis	21 mi. " " " " " "
Trimorphodon	15 mi. " " " " " "
Arizona	8 mi. S.

Steven Arnold Collections, Mexico and Central America, 1965

1. *Selloa glutinosa* Spreng.
2. *Tecoma stans* (L.) HBK.
3. unidentifiable
4. *Solanum* cf. *diversifolium* Schlecht.
5. *Asclepias elata* Benth.
6. *Calliandra* cf. *surinamensis* Benth.
7. *Buddleia nitida* Benth.
8. *Crotalaria retusa* L.
9. *Solanum* aff. *donnell-smithii* Coult.
- 10a. *Gyandropsis speciosa* (HBK.) DC.
- 10b. *Heliotropium indicum* L.
11. *Poinciana regia* Boj.
12. *Asclepias curassavica* L.
13. *Stemodia durantifolia* (L.) Sw.
14. *Antigonon leptopus* Hook. & Arn.
15. no specimen
16. *Acacia* probably *cornigera* Willd.
17. *Acacia* probably *cornigera* Willd.
18. *Ludwigia octovalvis* (Jacq.) Raven Det. P. Raven, 1965
19. *Hibiscus tiliaceus* L.
20. *Genipa americana* L.
21. *Croton xalapensis* HBK.
22. no specimen
23. *Rhynchanthera mexicana* DC.
24. *Coffea arabica* L.
25. *Mimosa pudica* L.
26. *Solanum* cf. *torvum* Swartz
27. *Cucurbita pepo* L.
28. *Hedychium coronarium* Koenig
29. *Cassia polyantha* Moc. & Sesse
30. *Bixa orellana* L.
31. *Petastoma patelliferum* (Schlecht.) Niers. (= *Bignonia patelliferum* Schlecht.)
32. *Warszewiczia coccinea* (Vahl) Kl.
33. *Arrabidaea* sp.
34. *Muntingia calabura* L.
35. *Hackelia guatemalensis* Brand
36. *Hackelia guatemalensis* Brand
37. *Digitalis purpurea* L.
38. no specimen; this named as *Thevetia peruviana* in Arnold's catalog
39. no specimen; this named as *Bignoniaceae* in Arnold's catalog
40. no specimen; this named as *Duranta repens* in Arnold's catalog
41. no specimen
42. *Antigonon* leptopus
43. *Salvia leucantha* Cav.
44. *Solanum* cf. *mitlense* Dunal in DC.
45. *Stachys costaricensis* Briq.
46. *Crotalaria vitellina* Ker.
47. *Thunbergia erecta* (Benth.) T. Anders.
48. *Asclepias curassavica* L.
49. *Solanum* cf. *torvum* Swartz
50. *Citrus aurantifolia* Swingle
51. *Xylosma ellipticum* Hemsl.
52. *Croton gossypifolius* Vahl
53. *Conostegia xalapensis* (Bonpl.) D. Don
54. *Cuphea cartaginensis* (Jacq.) Macbr. Det. R. C. Bacigalupi, 1965

Steven Arnold Collections, Mexico and Central America, 1965

- 109. *Solanum* cf. *mitlense* Dunal in DC.
- 110. *Tigridia pavonia* Ker. Gawl.
- 111. *Cassia tomentosa* L.
- 112. *Tecoma stans* (L.) HBK.
- 113. *Salvia leucantha* Cav.
- 114. *Salvia* sp.
- 115. *Canavalia villosa* Benth.
- 116. *Ludwigia peruviana* (L.) Hara Det. P. Raven
- 117. *Pinus lawsoni* Roehl.
- 118. *Quercus peduncularis* Nee
- 119. *Juniperus flaccida* Schlecht.
- 120. *Quercus tristis* Liebm.
- 121. *Salvia* sp.
- 122. no specimen
- 123. *Lotus* sp.
- 124. no specimen
- 125. *Dahlia coccinea* Cav.
- 126. *Zephyranthes longifolia* Hemsl.
- 127. *Mimosa guatemalensis* (H. & A.) Benth.
- 128. *Sesbania macrocarpa* Muh.
- 129. *Cuphea llavea* Llave y Lex.
- 130. *Solidago altissima* L.



Wm. Arvey

1965-1967

Catalogue

*1 - 89

California

British Columbia

Nevada

Catalogue 1965 Bill Arvey

Feb 4, 1965

Feb 4

Mann Ranch, 14 Mi NW Warner Springs, San Diego Co., Calif.

- * 1) MVZ * 154285 Sphyrapicus varius nuchalis,
♀ by plumage, prob. non-breeding
- 2) MVZ * 154287 Vireo huttoni huttoni
♀ ad ovary inactive
- 3) Dendroica a. auduboni MVZ * 154289 ♂ + minute.
- 4) Vireo huttoni huttoni ♂
- 5) Psaltiriparus minimus minimus 154286 0?

July 8 July 8, 1965 - Bear Creek, 9 Mi. N. of Clearwater, British Columbia.

- 6) Melospiza melodia ♂ t. = 0 - Specimen eaten ^(by v. armit) in tent night of July 8 -
- 7) Empidonax hammondi ♀ ovary 6mm, granular
- 8) ~~Sphyrapicus varius ♀ ovary 6mm granular eggs all same size.~~

July 10 July 10, 1965 Five Finger Lake Trail, Wells Gray Prov. Park, B.C.

- 8) Sphyrapicus varius ♀ skull incom. pneumat. ovary 6mm granular.
- 9) Junco oreganus ♂ * imm. skull not ossified, t = 1mm.
- 10) Sphyrapicus varius ♂ imm sk. t 1mm

July 11 July 11, 1965, Five Finger Lake trail, Wells Gray Prov. Park, B.C.

- 11) Empidonax ^{hammondi} ♂ ad sk. t 5mm.
- 12) Vireo olivaceus ♂ sk ad. t 6x7 mm
- 13) ~~Salpinctes obsoletus sk. 1mm.~~

July 17 July 17, Lava beds 3/4 mi. W. Shoshone Idaho

- 13) Salpinctes obsoletus ♂ sk. 1mm. t < 1mm skull beginning ossif. in back

Sept 12, 1965 ~~Beach~~ 10 mile beach on Pt. Reyes Peninsula, opposite Abbot's Lagoon.

- 14) Fulmarus glacialis ♀, dark phase, Dead on beach. Head, both legs taken for skeletons.

Bill Crowley
Catalogue 1965

Oct 8 15 Ereunetes minutilla ♂ Marin Co., Calif. Dillon Beach,
Collected by P. Ames. t. 1mm.

Nov 11 Nov 11, 1965 - Contra Costa Co. Calif. 3.5 mi E, 4.3 mi S Clayton, 1200 ft.
16) Regulus calendula ♂ t. < 1mm. skull unossified Collected by P.L. Ames.
in Oak Woodland.

Nov 18 Dillon Beach Marin Co. Calif. W/ P.L. Ames

17) Croethia alba ♀ ov. 3mm, heavy fat.

18) Charadrius alexandrinus ♂ t. < 1mm, heavy fat

19) Erolia alpina ♀ ov. < 3mm skull unossified, light fat

20

Dec 2 Berkeley, U.C. Campus, Alameda Co., Calif. brought in wounded
by R.D. Sage.

20) Junco oreganus ♀ ov. 3mm skull adult, no fat

1966

Mar 21 21. Ixoreus naumani Varied Thrush - shot by. Dr. O. Pearson in
Orinda, Alameda Co., Calif: ♂ testes oo - black color. heavy fat.

Mar 25 22 Hylocichla guttata ♂ testes oo Strawberry Canyon, Alameda Co.
Taken in Snap trap baited w/ peanut butter

July 18

22 Uta stansburiana



1966

Catalogue

South Farallon Is. S.F. Co., Calif.

June 19 ① Larus occidentalis - ♀ wt 950 gm Ovary granular to
• 23. 3mm follicles. Plumage adult. Stomach empty no fat
skeleton.

24. sk2) Larus occidentalis ♂. wt. 1100 gm L.T. 6mm
Stomach w/ fish, no fat Plumage adult
w/ air pellet in neck facia.

sk3) L. occidentalis ♀ wt. 1000 gm Follicles to 2mm.

25. no fat plumage adult, w/ brood patch

June 20 Ptychorhamphus ^{aleuticus} ~~cassini~~ skin Hit house during night
26. of June 19. ♀ skull not ossified, ovary granular and minute.
Probably young of the year.

sk. 4. Larus occidentalis collected June 19. adult plumage
27. ♀, little fat, ovary granular to 2mm follicles skeleton

June 23 sk 5. L. occidentalis collected June 19 Adult plumage
28. pin feathers, contour ♂ L.T. 11.4mm Little fat skeleton

29. sk 6. L. occidentalis collected June 19. Plumage Adult
1250 gms ♂ L.T. ~ 4mm 6 inch fish in crop
bare patch in position of brood patch.



1964

Catalogue

S. Farallon Is. S.F. Co., Calif.

June 23 Sk. 7. L. occidentalis ♀ 2 collapsed follicles
30. Plumage adult, little fat. Collected June 19

Sk. 8 L. occidentalis collected June 19

31. 2nd year bird, molt not complete in 2°, 1°, tail
rest 3rd year. wt. 1250 gm ♂ L.T. 15 mm

June 24 Ptychorhamphus ^{aleuticus} cassini ♂ L.T. 5x12 mm Little fat

32. Hit house during night of June 23.

Sk 9. Ptychorhamphus ^{aleuticus} cassini ♂ skeleton testes minute. Bird
33. with down, almost ready to fledge. Died near burrows. Little
fat.

Collected May 11, 1964 by P.L. Ames Curry Canyon 3.5 mi. E; 4.3 miles S

July 18 Clayton Contra Costa ^{Co} Canyon, Calif.

34. ♀ Icterus bullocki ♂ L.T. 15x10 mm.
Sk. adult.

35. Sialia mexicanus ♂ L.T. 7x10 mm sk. adult.

36. Chondestes grammacus sk ad. ♀ ov. large - ruptured foll. (?)

37. Sialia mexicanus ♂ sk. ad. L.T. 11x6.5 mm.

Sept 1

38. Empidonax traillii ♂? sk. partially oss. Found dead near Student Dorm,
Berkeley, Alameda Co., Calif.



1966

Biel Arvey, Catalogue 1966


Sept 4 Scott Mtns. $\frac{1}{2}$ mi S. Mosquito Lake, approx 15 mi. SW Callahan, Trinity Co., Calif.

39 Dendragapus obscurus ^{Fuliginosus} ♂? Juv.

40 Passercula iliaca ^{megarhynchus?} ♂ sk. single (collected Sept 5) wt. 37.4 gms.
in buckleyberry oak near Mosquito Lake. Prep. by D.R. Moore
No fat.

41 Vermivora celata ^{lutescens} ♂ sk. imm. (collected Sept 5) near Mosquito Lake.
No fat.

42 Parus gambeli ^{abbreviatus} sk. adult. ♂ testis ~ 1 mm

43 Sitta carolinensis ^{aculeata} sk. part. oss.  ♀ ov. ~ 2 mm granular uniform
Shot at Callahan, Siskiyou Co., Calif.

44. Spizella passerini ^{arizonae} sk. not oss. testes minute, 11.0 gms. Shot Sept 5, 1966
at Mosquito Lake. by J.B. Lynch, Prep. by D.R. Moore.

45 Junco oreganus ^{thurberi} ♂ sk. oss. testis ~ 2 mm

46 Dendroica auduboni ^{auduboni} sk. imm. ♀ ov. uniform

47. Vermivora celata ^{lutescens} ♀ ^{no ossification} sk. imm. Collected Sept 5 near Mosquito Lake

♀ - ovary minute

48. Certhia familiaris ^{zelote} ♀ ovary 2 mm. sk. not ossif.

49. Dendroica occidentalis ♂? sk. not oss. prep by D.R. Moore 9.7 gm

55. while holding Quadrato jugal area & squeezing jaws together
the jugal & quadrato were forced outwards laterally.
Retractors of upper jaw cause same outward forces.

1966

Bill Arvey Catalogue

Sept 4-5 Near Mosquito Lake, 15 mi. SW Callahan, Trinity Co., Calif.

50. Passerella iliaca ^{megarrhynchos?} O? sk. imm. Sept. 5 by J.B. Lynch
at Mosquito Lake

51. Dendroica occidentalis O? sk. imm. D.R. Moore w/ -

52 Dendroica occidentalis ♂ sk. single, testes < 1 mm

1967

1967

1967

53.
April 27 Junco oreganus O? sk. juv. taken at Behavior station, Berkeley
Hills Calif by P.L. Ames 8 Mar 1966. ~~Testes~~ gonads disintegrated

April 25 Tomales Bay, Marin Co. Calif. MVZ A. # 10665

54 Phalacrocorax pelagicus - in alcohol whole

55 Phalacrocorax penicillatus SReleton - widest gap (protracted) = ~122 mm
from outside mand. ? up. juv.

56 " " alcohol whole

57. " " alcohol whole

1967

Catalogue Bill Arvey

28 April

Curry Canyon, Contra Costa Co., Calif.

58

Stellula calliope ♂ collected by P.L. Ames 11 April 1966

31 April

Mill Valley Marin Co., Calif. collected by Charlie Brown
April 3, 1967.

59

Otus asio ♀ ova 615mm, fat.

2 May

Curry Canyon, Contra Costa Co., Calif. collected by P.L. Ames,
20 Sept. 1966

60

Sialia mexicana ♂ ad. testes ~ 2mm black.

~~##~~

4 May

~~Ph~~ Monte Rey Bay, Monterey Co., Calif. collected by P.L. Ames,
18 Dec 1966.

61.

Phalacrocorax penicillatus. Skeleton ♀ ov. granular-disintegrated

62.

Ph. penicillatus skeleton w Ames # 86

63.

Ph. penicillatus skel. Ames coll. no data MRZ 157667

5 May

Sialia mexicana collected by P.L. Ames Sept 20, 1966

64

Clayton, Curry Canyon, Contra Costa Co., Calif.

65

Passerculus sandwichensis

10 mi. S. Marysville, Yuba Co. Calif.

9 Oct, 1966 G. Christman



Catalogue Bied Arvey

1967

July 29

Approx. ⁸ mi. NE Paradise Valley, on Hinkey Summit rd.

Humboldt Co., Nevada

66. Phainopepla nuttallii ♀ sk. oss. wt 44.5 gm. Crop full.

including many Elaterid. Beetles, 1 cicada, 1 flying ant, 1 T. pulid Fly, and other types. wt. 44.5 gm. ov. follicular no ova over 1 mm.

approx 3 mm.

July 30

Martin Creek; 1½ mi. ENE Martin Creek Recreation area, Humboldt Co. Nevada

67. Icterus bullockii ♀ sk. single 1mm. Ovary watery, 1-2 mm. Light ♂ - Med. fat. wt. 37.1 gm.

68. Sayornis ^{Saya} ~~sayornis~~ ♀ ad. sk. oss. 22.5 gm. Ovary 7 mm.

69. Oreoscoptes montanus. ♂ im. S.N.O. wt. 42.8 gm. Lt. 1x5 mm. No fat.

70. Passerina amoena ♀ by Plumage wt. 14.6 gm. - Lt. fat. - sk. ossif.

upper Lye Creek, Santa Rosa Mtns. elev 7800 ± ft. Humboldt Co. Nevada

71. Empidonax ♀ sk: ad. comp. oss. Ovary 4x2 mm wt. 11.1 gm
Lt. fat. Largest ova ~ 1 mm.

72.

July 30

5 mi N. Paradise Valley, Humboldt Co., Nevada.

72. Lanius ludovicianus ♂ sk. comp. oss. Lt. 4x2 mm wt. 45.5 gm

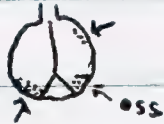
1967

July 30 Martin Creek, $1\frac{1}{2}$ mi ENE Martin Creek Recreation area, Humboldt Co.,
Nevada.

73. Actitis Macularia ♂ sk single testes minute, very fat wt. 41.9 gm.

upper Lye Creek, Santa Rosa Mtns, Humboldt Co., Nevada.

74. Spizella breweri ♀ sk ad. wt 12.5 gm. heavy fat. Ovary ~ 4 mm long
largest ova ≤ 1 mm - Some appear yolk. Heavy body? tail molt.
shot in Potentilla bush

75. Hylocichla ustulata ♂ im. sk.  beginning to ossify.
wt. 35.5 gm. Lt. ~ 2x1 mm dark color. body molt

76. Junco caniceps ♀ sk. ad. Ovary 8 mm long ~ 3 rup. follic. lrgst ov. 3 mm
no wt.

77. Junco caniceps ♂ sk. ad. wt. 19.1 gm. Lt. 8x4 mm.

78. Troglodytes aedon ♂ sk. ad. Lt. 3x2.5 wt. 9.7 gm
Lt. ~~fat~~ fat

Aug 6 U.C. Campus Berkeley, Alameda Co., Calif.

79. Pipilo fuscus ♂ imm. (SNO) wt 49.0 gm. Lt. fat. Lt. 2x2 mm

1967

Catalogue - ARVEY

July 30 ^{Lower} ~~Upper~~ Lye Creek, ⁶⁵⁰⁰ ~~7800~~ ft Santa Rosa Mtns. Humboldt Co. Nevada

80. Tachycineta thalassens ♂ imm. (SNO) Lt. ~ 1 x 1 mm no wt.
Lt - Mod. Fat.

81. Passerella iliaca ♂ imm. (SNO) Lt. ~ 1 mm. badly shot

July 28 2½ mi. ENE SAGEhen Creek station at Census Plots elev 6500±ft Nevada Co, Calif.

82. Dendroica auduboni ♂? wt. 11.1 gm. Sk. oss.

83. Chlorura chlorura ♂ ad. sk. oss. Lt. 13 x 8 mm 29.0 gm. Shot while singing from snag above ceonothus chaparral.

~~84. Spizella breweri~~

July 30 Upper Lye Creek, 7800±ft Santa Rosa Mtns, Humboldt Co., Nevada.

84. Spizella breweri ♂ 10.0 gm. adult. Skull ossified.
Lt. 5 x 3 mm. slightly dehydrated from freezing. body molt

85. Zonotrichia leucophrys 27.8 gm. mod-fat ♂ Lt. 6 x 3 mm sk. ad.

Catalogue

1967

Bill Arvey

Oct.

Knight Island, Leslie Salt Land, near Napa River, Napa Co Calif.

A10719

86.

Pelecanus erythrorhynchos 0? skel. 6600gm extremely fat

87.

88.

Aug.

Tomales Bay, off Nicks Cove landing, Marin Co., Calif.

89.

Pelecanus occidentalis - skull & jaws saved for skeleton.

Wm. Arvey

1965-1967

Journal

Misc. Calif.

British Columbia

Nevada

Bill Arvey

1965

~~Jan~~ Feb 4, 1965

Feb. 4

Mann Ranch - 14 mi NW Warner Springs, San Diego Co. Calif.
Martha and I went collecting about 12 PM - 1 PM.
From the ranch house we went down to the stream
W. of there. Shot a ♂ audubon's warbler from one
of the upper branches here. His ♀ was present in
the area and could be heard for a time. The day
was clear, cool, and a little dry. No leaves yet on
the cottonwoods. Moving downstream, I shot a ♀
yellow-bellied sapsucker from a dead but erect
tree. ~~He~~^{She} was about 15 feet off the ground, called
frequently. Further downstream we climbed out of the
stream bed into the chaparral area of scrub
and oak. We followed a flock of Hutton vireos
and Bush tits through this area and finally shot
a ♂ and a ♀ vireo, and then a Bush tit. The
bush tit is decidedly darker than other forms
of the minimum race, and may approach melanura
color in fresh plumage. Also took a shot at
a Brown creeper and missed. Bird life was generally
scarce this day. Lots of Bluebirds around, Red tailed
hawks, Lawrence's goldfinch near the house.

1965

Bill Arvey Journal

July 2, 1965

Leave Berkeley 1 pm.

Mileage

approx. 54800

shasta Co Arrive at Dodd Creek ^{off Hwy 99} at 530 PM. Parked 25 yds

from stream. Soil metamorphosed slate, highly disrupted, mountains w/ coniferous - deciduous trees. Pinus jeffreyi and Quercus kelloggii. Tiger lilies blooming. Most grasses dry except near stream bed. Bird life very still, most common song is wood pewee, but very little other. night clear warm. Morning

July 3, 1965.

Arise at 730, take 15 min. bird walk. day clear, temp about 60°. Birds: West. Tanager - 1 male, wood pewee - 1 observed, 2 or 3 others heard., Bewick's Wren - 2 observed (a pair), b-c chickadees, a family in a jef. pine. red-brest. nuthatch - 1 observed, spotted towhee singing to another. a pair of Brewers blackbirds, a ruby crowned? kinglet.

Left 8³⁰

mileage 55018

55386

Arrive at Maud Williamson State Park, Oregon at 6 PM. 13 Mi N of Salem on Hwy 221. Campsites all taken, we take one sans stove, table, etc. Temp. reached around 90-100 during the drive. Camp (Park) consists of a grove (24 acres) of rather large old second growth Doug. fir. also other deciduous trees (sp?) and a rather verdant understory in places. Western Flycatchers seen commonly. Chickadees, many robins. White breasted nuthatches

1965

Bill Arvey Journal

July 3 cont'd

on the Doug. Fir. A house wren was seen at our campsite, which is on the edge of the grove, beyond which is a field of alfalfa 2 feet high. The wren made several foraging trips into the field, singing as he did in the scratchy voice (scold?). He would stay in the alfalfa lost to sight for a few seconds then return to the surrounding foliage and sing and preen. This lasted about 5 minutes.

At noon today we stopped at the town park in Grant Pass Oregon on the banks of the Rogue River. Here we ate lunch and watched 2 belted kingfishers on the E. side of the river. They were flying about over the river calling, and it appeared, chasing one another. Sometimes they would alight, singly, on some thrown up log on the other side. They were not seen to go into the water for fish. Also in the park we noticed a nighthawk which flew off its perch about 30 feet up in a Doug. fir, flew around for about 15 seconds and then returned and settled down. By the wing markings it appeared to be a lesser nighthawk Chordeiles minor. I don't think it was foraging, rather feeding.

July 4

Leave 945 Mileage 55386

July 4

Arrive Port Angeles, Olympic Peninsula, Washington at 5 PM.

35674

The next ferry wouldn't be until 830 PM so we

1965

Bill Arvey Journal

(Hurricane Ridge road)

July 4

drove about 5 miles up into Olympic Natl Park. No campsites here so we took a small road leading toward Elwah(?). After about 2 miles we turned off a side road which leads to a small stream and a clearing. We set up camp, but broke it later to move to a better spot farther down the road. Here it is still light at 9 PM. Alders around the stream, Doug Fir, and some Sequoias making a very dense forest with dense damp undergrowth of ferns and other herbs, low alders mostly. Have seen no birds, Heard chickadees and a Western Flycatcher. Also a pewee and one or 2 that can't identify. No woodpeckers. Appears to have been logged once because of the cut trunks, decaying in the stream bottoms etc. Mileage 55674

Leave 6:45 AM July 5

July 5 - Traveled down to Port Angeles Wash and caught Ferry to Victoria B.C.

\$10.40! Day cold, foggy to surface of ocean. Halfway across the fog began breaking and could watch birds. Saw mostly West. gulls, but some cormorants, 1 pelagic for sure seen near shore on a log preening & resting. As we approached Victoria some small, brown birds were seen flocked on the water with gulls. These I thought to be murres until closer approach proved them to be puffins, tufted I think. Further in I saw some ~~other~~ ~~oos~~ oyster catchers flying in toward the rocks. We went from Victoria to Swartz Bay in time to catch 12 AM ferry to Vancouver.

1965

Bill Arvey Journal

July 5

at the landing I saw crows, all about the same size, but 2 different calls were heard, a higher pitched call, and a low guttural one. I watched one crow, probably Corvus ~~the~~ b. caurinus poking among the weeds and rocks of the shore, probably foraging. Large numbers of crows were not seen to be on the beach however, and must have been seen in the forests along the coast, usually up in the trees. The increased prevalence of crows has been evident here in the Northwest regions however. The ferry from Swartz Bay (\$9.40) was uneventful. We landed and got straight on the road for Hope, Chilliwack etc. We passed right through Chilliwack, then Hope and started on to Kamloops but decided to camp at American River?, 1.5 mile W of Spuzzum. The water here was swift and clear and emptied into the Fraser River below. Little bird life noted, though Swainson's Thrush was heard often. Here we discovered with the B/A oil company's help, a bearing failure in the R/R wheel, decided to return to Chilliwack for repairs.

July 6

Up early and drove slowly back to Chilliwack. Got rear wheel repaired but this depleted money supply so we wired back to Berkeley for more. The money hadn't arrived by 5 PM so we drove up the Chilliwack river about 5 miles from town to camp.

1965

Bill Arvey Journal

July 6

The river is wide, very rapid, still high, and a little unclear yet. I fished, caught 2 small Rainbow trout and noticed a double crested Cormorant flying off downstream rapidly. 2 such flights were seen, possibly a pair nesting here. Robins are abundant, also swainson's thrushes, song sparrows. We saw 2 night hawks flying above at about 8:30 PM. ~~1~~ One called ~~loudly~~ loudly, they ~~to~~ circled in their characteristic flight pattern, and left.

mileage 55912

July 7

Got into Chilliwack by 9 AM. Had ^{6th} front bearing replaced and at 10 AM the money had arrived. We started for Wells Gray park about 11 AM. We got into clear water at about 5 PM. We then drove about a mile up the dirt road leading to the park and camped at Bear Creek for the night. The creek is full, rapid and clear and brush around the stream was very dense, especially the Rubus. A very dense coniferous forest with cedar, fir, etc. Many old logs decaying in the humus. Saw a glimpse of a Canada jay heading upstream rapidly. One is impressively with the temperate rain forest aspects of this forest. It rained for a short time during the night. Daylight till 9:45

July 8

Up late. While eating breakfast a song sparrow approached in the brush (Rubus 2 ft high), and I shot him. A little later I shot a Western flycatcher across the road on a twig. We packed up. I heard and tracked down a house wren singing previously.

Bico Arvey Journal

1965

July 8 contd.

Continued on the road to Wells Gray, stopping frequently. At a ranch with a stream we saw 2 evening grosbeaks at streamside, and I observed them bathing. On the Clearwater River after entering the Park, we learned at Dawson Falls Campsite from 2 friendly people about a tragedy of the night before. A car with 5 people went off into the river after stalling on the grade up to the campsite from the bridge, 3 killed. Continuing on we stopped to look at Helmcken Falls. A spectacular site, the water plunges about 600 feet to the canyon below. The canyon walls are basaltic, and this appears to be the same geologic phenomenon as in our Columbia plateau w/ Snake river, Columbia river etc. At a stop on the river we saw a family of common mergansers, a female with 6 chicks about half grown, still with lots of down. We scared them off the near bank and they went swimming off downstream, carried by the current which was considerable and finally we saw them make the other side. The river was about 300 yds wide here. In the forest, I caught a brief glimpse of an american redstart. Made camp on Falls Creek at the south end of Clearwater Lake. The lake is actually a widening in the river, although it is long and very wide, but seems to be moving. We are camped among spruce? alders, birches, cedar and dense undergrowth. Soil type is volcanic with small cones behind us.

1965

Bill Arvey Journal

Have seen stellar jays in the campsites, a western tanager, some juncos, fleetingly as they are not too common here. Saw a spotted Sandpiper down on the lake.

July 9 - Up at 8 AM. Went bird watching around the camp. Saw juncos close by. All appeared to be oregon juncos although they are rather dark. Near campsites in Spruce tree are a pair of golden kinglets. Saw a Macgillivray warbler in beautiful plumage near by foraging about 10 feet up in conifers. He came up with a moth of some sort and was very excited, jumped around with it. A single Audubon's warbler was in the same tree. Saw a Tennessee warbler, very grayish, probably the male. 2 spotted sandpipers met me in the road. They were excited about my presence, ran a few steps, stopped and pumped the rear ends up and down. The bill was bright red on both. Probably hiding a nest. Saw 2 or 3 robins, one sang for a long time. Near the boat landing I watched a male American redstart singing and chasing other birds off his territory. By the water's edge I watched a family of Northern Waterthrushes moving up the river edge. One parent was being chased by 3 or 4 young and had to move rapidly to keep ahead. The parent had much more rufous on it than the young, a more conspicuous eye stripe also. The young looked more like Song Sparrows.

Left at 11:30 to drive about 15 miles back to the Helmcken Falls area on the Clearwater river. Here I fished til 5 PM,

Bico Arvey Journal.

1965

July 9 cont'd

Catching 26 rainbows all about 7 inches long \pm .
On the way back we saw a family of crows. They were very large and had deep voices, probably Corvus b. hesperis. Tried to get a shot at one but they sat in a huge cedar tree which hung out over the river. On the road we saw a ^(spencer) ruffed grouse hen with at least 2 chicks. She seemed very unconcerned about our coming and casually walked back off the road into the brush. Saw at one spot about 6 or more flickers, very darkly marked. Why they were assembled in this area, I don't know because we haven't seen any others. Here I also saw a western tanager male. The most common bird along the roadside is the junco it appears. Have seen no evidence of shore birds other than the spotted sandpipers. (Saw a water ouzel at the stream at campsite, foraged awhile at water edge)

July 10 Up at 8:10 AM. Rained Hard during night. overcast skies.

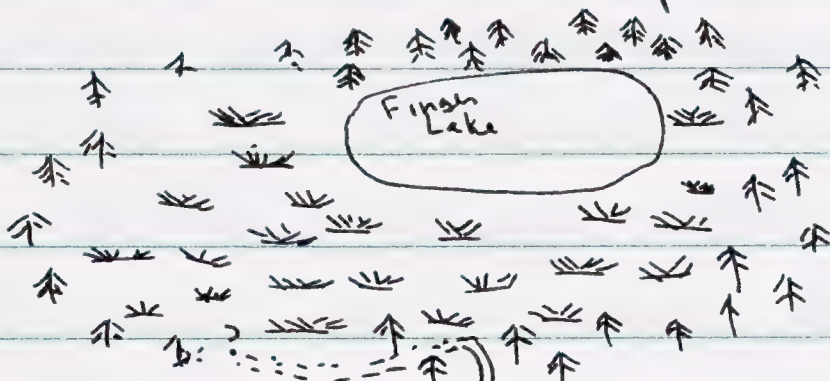
Took a walk around campsite but things were just compared with yesterday. Saw a thrush briefly. Stellar's jays were noisy as usual. American redstart was in approx. the same place as yesterday. Empidonax flycatchers were very abundant this morning, I spotted them 3 or 4 times. Watched a parent feeding a brood down by the boat dock. Saw a σ ruby-crowned kinglet in some conifers. A winter wren was seen on the ground foraging in the shrubbery. Unmistakably with very short tail, heavy barring line over eye.

Bill Arvey Journal

1965

cont'd

July 10 At 10:30 Marty and I started off on the trail to Finger Lakes. There is no mileage posted at the head. The trail winds through the forest and after about 1.5 miles, the lake is reached which is on the other side of a lowland marsh. In the marsh are many song sparrows. We didn't try to reach the lake. No birds were seen on the lake itself which is about $\frac{1}{4}$ a mile long.



It appears to be used mostly by hunters in season. The mosquitoes thrive on the moist undergrowth and one cannot stand still without becoming drained of his bodily fluids by these insects. There are just swarms of them. Not much bird life was noted either coming or going. On the way there we saw many juncos, I shot 1 immature one. An Empidonax was seen. I shot a ♀ yellow bellied sapsucker of a burned snag. On the way back I shot a young one in the same area. A Macgillivray's Warbler was seen near the trail head. A Townsend's warbler was seen also. A heavy downpour occurred on the lake back.

July 11 Up late. Ate, ~~the~~ raining since about 8 AM. I stopped about 11 AM and I took my gun and went again up the Five Fingers lake trail. A Macgillivray's warbler played with me for awhile but I couldn't shoot it. About 25 yds up the trail a red eyed vireo jumped out in plain site on a branch and I shot him.



Bill Arvey Journal

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July 11 Saw a golden crowned kinglet which came down to investigate me. Further in about half a mile, as I was trying to get a shot at a warbler, an Empidonax came in close and I got him. On the way back I saw a thrush (sp). Bird life quiet because of the rain generally, and I spent the afternoon skinning.

July 12 started for Lava Beds at 1030 AM. The ~~st~~ trail starts up sharply over the hill then down to Falls creek which tumbles thru a gorge of Schist there. Above the schist layer seems to be a basaltic layer. Up out of the gorge then over across some forest where we saw in one small glade. ♂ & ♀ American Redstarts, ♀? Macgillivray's W., ♂ magnolia warbler. It seemed as if the calls of one kind attracted all these to the spot. After the forest came the Lava beds. This is a surface layer of Volcanic froth which seems to extend for a square mile or more. The vegetation is sparser here with no herbaceous undergrowth. Cariboo? do forage here as evidenced by droppings. Many burned snags stick up in the area. On one was a West. Wood Pewee. Another seemed a favorite for R. shafted flickers, we saw 3 come and leave in a very short while. One was lighter, had no red mustache which looked like it could have been a yellow shafted but we didn't see him fly. This seemed to be a roosting place for Common nighthawks also, before long 3 were flying around. One dove several times making a whirr sound as he pulled out.

549
56287
262

Bill Arvey journal

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July 12 contd. Saw some cedar waxwings here also.

Came back, circling around the boat landing. Saw 2 spotted sandpiper chicks here with down, running around on the road cut. They bobbed the tail like adults. After we left the parent came rushing back. At the landing we watched a family of what appeared to be chipping sparrows. Here also was a ~~the~~ pair of dark birds, black bird & cowbird size flycatching. Though I watched for awhile, could not identify them for sure. Since the day was \pm clear, insects were out and so were swallows, & swifts. Saw three swallows come down and land in the dirt road by the landing, he picked around on the ground for $\frac{1}{2}$ a minute then flew off. Rough wing swallows are abundant here, seem to be playing with each other over the water, flying & chasing in big circles. I think I saw Vaux swifts also. Dark & small, twinkling flight, none of the white-throated's distinctive marks, small tail. At 6 I walked downstream on the Clearwater river and caught 4 trout about 7" long. I went back after dinner and caught 6 more 1 about 12" long another over 15 inches which must weigh over a lb. Lost 38 Aug

July 13 - up at 8, break camp, leave by 10. mileage 56287. Travel til 6:30, til were about 5 miles north of Penticton B.C. on Hwy 5. We caught a dirt road which is used by subdividers to take us up to a mesa which over-looks the town and Okanagan lake. Here it is Ponderosa

1965

Bill Arvey Journal

July 13 Pine and sagebrush. We are on top of some ^{recent} lake deposits of mud which are weathering out toward the lake making mudstone spires and cliffs. Here I saw 2 sparrow hawks as if they had a nest nearby. The lights of the town are visible from here and it seems rather large.

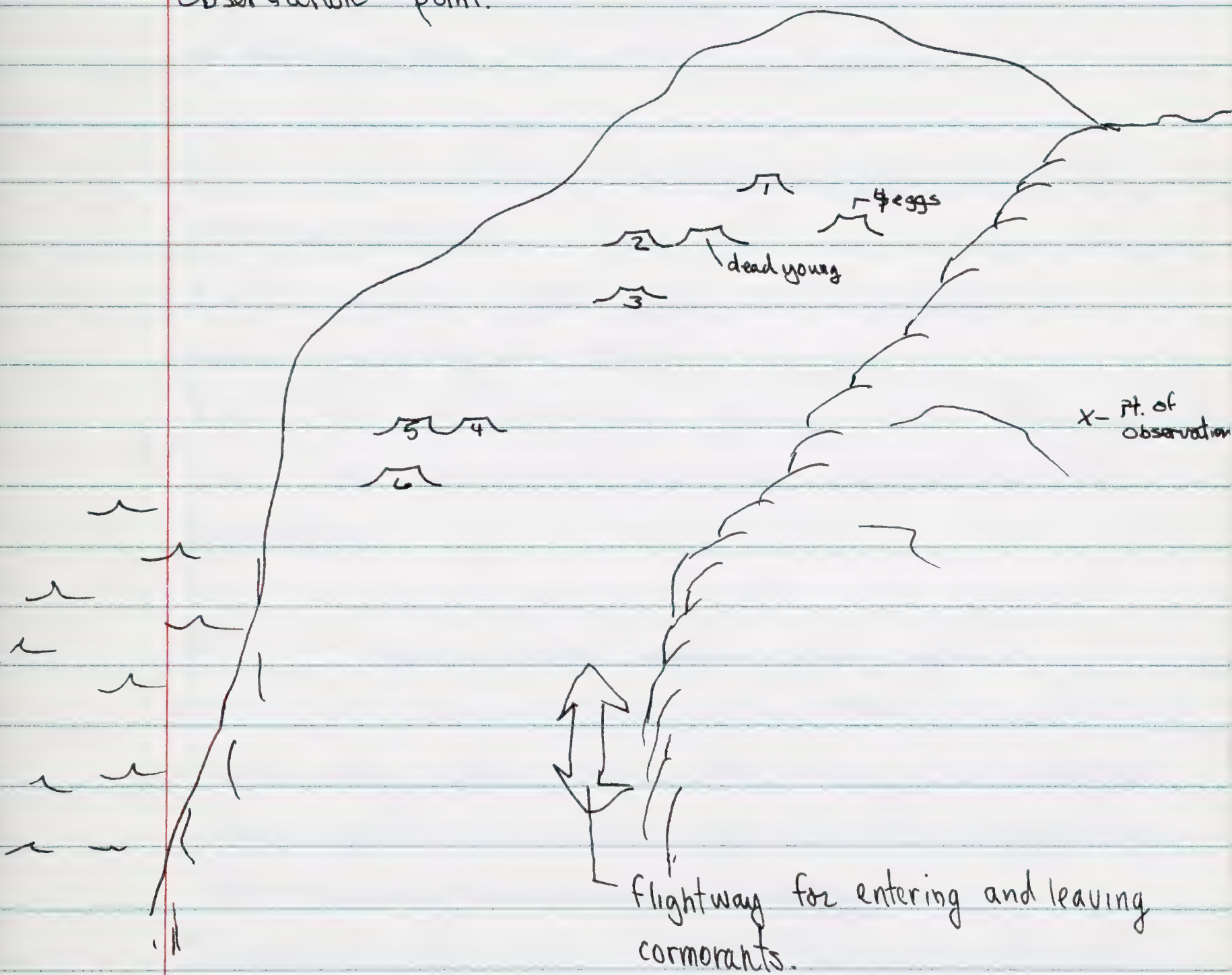
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Bico Arvey Journal 1965

1965

July 24, Sat. - with Doctor Miller at Pelagic Cormorant nest site, Bodega Bay headlands behind U.C. Marine Biology Facility. on cliffs of decomposing, crumbly, igneous (granitic?) rocks. diagram of nest sites & observation point.



6 nests with nestlings are under observation, One containing freshly killed young is also being watched.

Nest 1 is uppermost on the cliff. At 945 AM there are 2 adults ~~guarding~~ guarding 2 very small, probably less than 2 day old nestlings and 1 unhatched egg.

1965

Bill Arvey Journal

July 24 One parent is in brooding position now, but stood upright when we arrived, just now has settled back.

Nest 2 has 3 $> \frac{1}{2}$ grown young. at 945 contains 1 parent, from which the 3 are actively begging. The parent has stepped away from them, onto a more exposed position on the cliff face.

Nest 3 contains 1 large $> \frac{1}{2}$ grown young, with one attendant parent.

Nest 4 has 2-3 quiet young $\sim \frac{1}{2}$ grown, one parent guarding at 953 AM.

Nest 5 has one $\frac{2}{3}$ grown young, w/ 2 attendant parents.

Nest 6 has 3 $\frac{1}{2}$ grown young, one attendant parent at 955.

Observations:

9:57 - 4 - young actively begging from parent.

9:58 - 1 - The crouched parent, opened mouth, raised off nest, flew away, making 2 or 3 half circles, then disappeared around point. The remaining parent, which is apparently less iridescent, now crouches over young.

The young of nests 1 and 4 at least show pink gular sacs when seen from the exterior. When viewed head on they appear to resemble a mouth in open gape which may be its function in stimulating the parent to feed. It seems to be somewhat inflatable, and is most pronounced when begging.

1965

Bill Arvey Journal

July 24 1002-4- one young begs, flapping, ie waving Bill in short sideways movements at parents mouth, other nestlings preen.

The 2 Offshore Fishing Flocks observed upon arrival have now completely disbanded. There were 2 flocks, densely aggregated w/ ~ 25-30 birds in each flock. Manner of fishing and species, was thus not observed, but believe them to be ~~a~~ Pelagics.

1010- dead nest- adult arrives here, may or may not be their parent.

upon arrival at site, a raven and turkey Vulture were frightened from the area, flew up calling. Perhaps they had a part in killing these young.

1014 - 4- a young very active - begging.

1017- 1- an egg seen beneath adult, not in effective brooding position.

1018-6- one parent arrives, the 2 adults briefly weave heads & necks together, the guarding parent then leaves after opening mouth and uttering a one note, deep call.

1021-6- newly arrived adult opening mouth, craning neck, (regurgitory mov't's) young start becoming active, beg.

1022-3- nestlings getting active, begging, parent jumps a short distance out of nest.

1023 -6- adult feeds young, head disappears into gullet.

1025-4- adult feeds a young, no parent had arrived so had had this food available for some time prior to feeding.

1965

Bill Arvey Journal

July 24 1026-4- all nestling now vigorously begging after one has been fed.

1027-3- parent departs, leaving no one to guard nest.

This may be significant in cases of dead nestlings killed by predators. adult at nest of dead young still present.

1029-6- a young bills the leg of nearby parent.

1029-4- another feeding takes place.

1031-6- one young spreads wing and tail, flapped weakly as if stretching.

1035 adult still present at dead nest.

1036-1- heads visible of nestlings.

1037-3- one young just defecated for a great distance, is now standing, another is preening.

1038-2- young very quiet, huddled together, still unguarded.

1040- little activity noted, very few cormorants, ± 1 can be seen fishing offshore. few birds seen flying.

1043-3- nestling observed fluttering gular area.

1043- Sun appears briefly thru clouds, up to now has been overcast, cool, breezy.

1045-5- young bothering parent w/ bill.

1051-3 pigeon guillemots landed on ledge 30 \pm feet to left of cormorant nests.

1052-5- parent & young preening.

1054-3- young awake, parent appears restless

1058-3 cormorants return to roosting spot on cliff front.

1102-4- adult arrives, other leaves. 4 creaks uttered in arrival.

1965

Bill Arvey Journal

July 24

1105 AM - Adult on 1 crouches a little lower to young and eggs.
5 cormorants are now sitting down to the left.

11:07 begging takes place by crouched young in 5.

1108 young in 5 gets head into throat.

1109 - another, more vigorous feeding at 5, young get head into throat.

1110 - another feeding at 5

1116 - adult returns to nest 2, with 2 or 3 notes on returning, and stands 2 feet to the left of the young.

1118 - arrival of 2nd parent at 2, stands at nest. Young begin to arouse.

1119 - young in 2 actively begging. Second arrived parent looks larger.

1120 - feeding at 2 by larger parent

1121 - ~~the~~ parent which just fed now hops back to left, larger parent flies away, then back in to nest.

1122 - 2nd parent arrives at 3, other parent leaves within 20 seconds

1123 - at 2 the larger parent feeds young, 20 seconds later the smaller parent feeds. young still active

1124 - smaller parent leaves 2

1125 second parent leaves 2, one is followed to sea, see AHM.

1130 - a parent has landed near above 5, stands there.

1132 - adult still stands at dead nestlings.

1135 - adult at 1 still alertly standing over brood

1136 - parent which had been at 5 leaves

1137 another parent returns to 5, whether the same or not is unsure since the one which last arrived here had not committed himself to this

1965

Bill Arvey Journal

July 24

nest

1140. A parent which just returned to 5 now leaves again.

1142, 2 nestlings at 2 are billing at one another.

1145. Sun appears off and on.

1150 - one young begs at parent at 6.

1148 - 9 oyster catchers fly by moving south.

1153, 5 - young seen fluttering gular area. Looking directly below our observation point, an adult bird has a very bright red face patch evident. Lunch break - see AHM notes.

1245 - return from lunch.

nests 1-2-3-4 all w/ one parent, 5 w/ 2 parents, 6 none.

1250 - parents side by side by the one young in 5; preen, while young flutters gular area.

A pelagic Corm. out of study area spreads wings out and holds momentarily at about 11 AM. This bird was not a nester.

1255 - Parent at one hovers in a closer brooding position over young.

1:00 - Parent on right side of 5 leaves nest with a departure note.

107 - 2 - parent arrives with a call, begins regurgitory movements as if to feed.

109 - bird arrives at 6, ~~but~~ no call given, stands 2 feet to left of nest. Birds in 2 begging vigorously.

111 - 2 - parent hops and weaves to avoid hungry thrusts by young. Calls are heard from the young.

112 - 6 - parent hops to edge of nest.

113 - 2 - parent hops up away on ledge from young.

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Bill Arvey Journal.

July 24

- 115 - young calm now at nest 2
117 - adult alights just to left of dead nest -
118 - parent at 2 leaves
119 - calls heard from young in 6, a continuous sque, sque, sque etc.
120 - 6 - parent hops back away from nest.
122 - 1
124 - a bird comes to 6, 3 feet to left of other parent and about 6 feet left of nest. (Correction - this bird now hopped back to nest 4, and belongs to nest 4.
132 - 6) adult leaves nest, no call given, young now alone.
135 - 1, adult now in almost close brooding position.
136 - bird seen fishing 20 yds. offshore.
138 - 4 ravens circling over nests, out over water -
146 - 2 adults still at dead nest, no position change.
149 - original adult at dead nest leaves, has been sitting for several hours here. The secondly arrived bird guards this nest alone now.
153 a nestling at 6 is fluttering for gular area, w/ mouth partly open.
159 - Parent at 5 has a feather on the left wing which juts out, may be a good marker.
2 PM - adult arrives at 4, hopped onto nest edge. Within 20 seconds the other adult leaves the nest. Young are now begging.
202 a parent arrives at 5, rubs bills and neck w/ other parent, giving call notes.
203 - nest 4 - feeding occurs, young very actively begging.
204 - " " another feeding
206 brief feeding at 4, probably no food is passed.

1965

Bill Grey Journal

- ~~Set~~ July 24
- 207 - adult leaves #5, leaving the newly arrived. Noticed that all departing birds open mouth as they are about to leave.
 - 210 - a brief feeding at 4, food may have passed.
 - 211 - Young beg so vigorously at 4 that they pushed the parent off the nest, down a foot.
 - 213 - 6, adult just arrived at nest, young now becoming aroused.
 - 216 - Bird by dead nest leaves, now is unguarded.
 - 224 - other parent returns to 6, both parents present.
 - 229 - Young in 3 now begging.
 - 231 - 6 - newly arrived noticeably wet, shakes often, spreads wings, now the 1st arrived moves onto the nest rim.
 - 232 - newly arrived feeds young at 6 for ≈ 10 sec.
 - 233 - another feeding at 6 by same parent.
 - 234 - newly arrived departs from 6
 - 237 - 6 - adult remaining tries to feed young briefly, probably no food is passed.
 - 242 - Food passed at 6.
 - 245 - another food try at 6, prob. no food passed.
 - 248 - adult arrives at 2 w/ 3 squawks, sits at nest edge.
 - 249 - 4 - parent leaves, now is unguarded
 - 253 - young at 2 haven't been fed yet, are now begging vigorously.
 - 254 - another adult arrives at 2 on nest rim, with 2 or 3 squawks.
 - 255 - 2 - feeding by first arrived parent.

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Bill Arvey Journal

July 24

257-2- another feeding by same parent.

258-2- " " " other "

258-2- " " " first "

259- larger parent at 2 hops to rock on left

259- larger parent departs from 2

303 a bird land above and to the left of #1, hold on for about 30 sec. then flies off.

305-4- adult arrives at nest rim, hops to 5, gets kicked off by parent there, goes 4 feet away to a rock.

316- This above bird still on rock, peering over at 4 and 5

317- This bird now moves over to #4 rock again.

325 3 Cormorants spotted \approx 200 yds offshore fishing.

329- fishing flock spotted offshore about $\frac{3}{4}$ miles, about 10-12+ birds.

332- dead nest adult arrives

337-L, adult leaves, flies about 100 yds offshore, alights in water, dives at 338.

340- Second dive seen by this bird.

341- this bird now bathing.

348-L- adult arrives wet with 3 squawks.

350-5- adult returns but sits about nest a foot or so away, may not be partner

352- Still not sure if bird at 4 is parent, but now the other parent returns so we assume so; he jumps up to the nest now.

355- Feeding by parent at 4; had been here quite sometime.

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Bill Arvey Journal

July 24

356- 5- feeding from adult which had been there for some time.

357- 6 leaves

358- 5 feeds again, same parent.

359- above, newly arrived parent at 5 hops down to nest.

359- feeding a 4 & 5 by parents.

359- 4 adult leaves

400- 5- feeding by newly arrived parent, other leaves

400- 5- feeding again, same parent

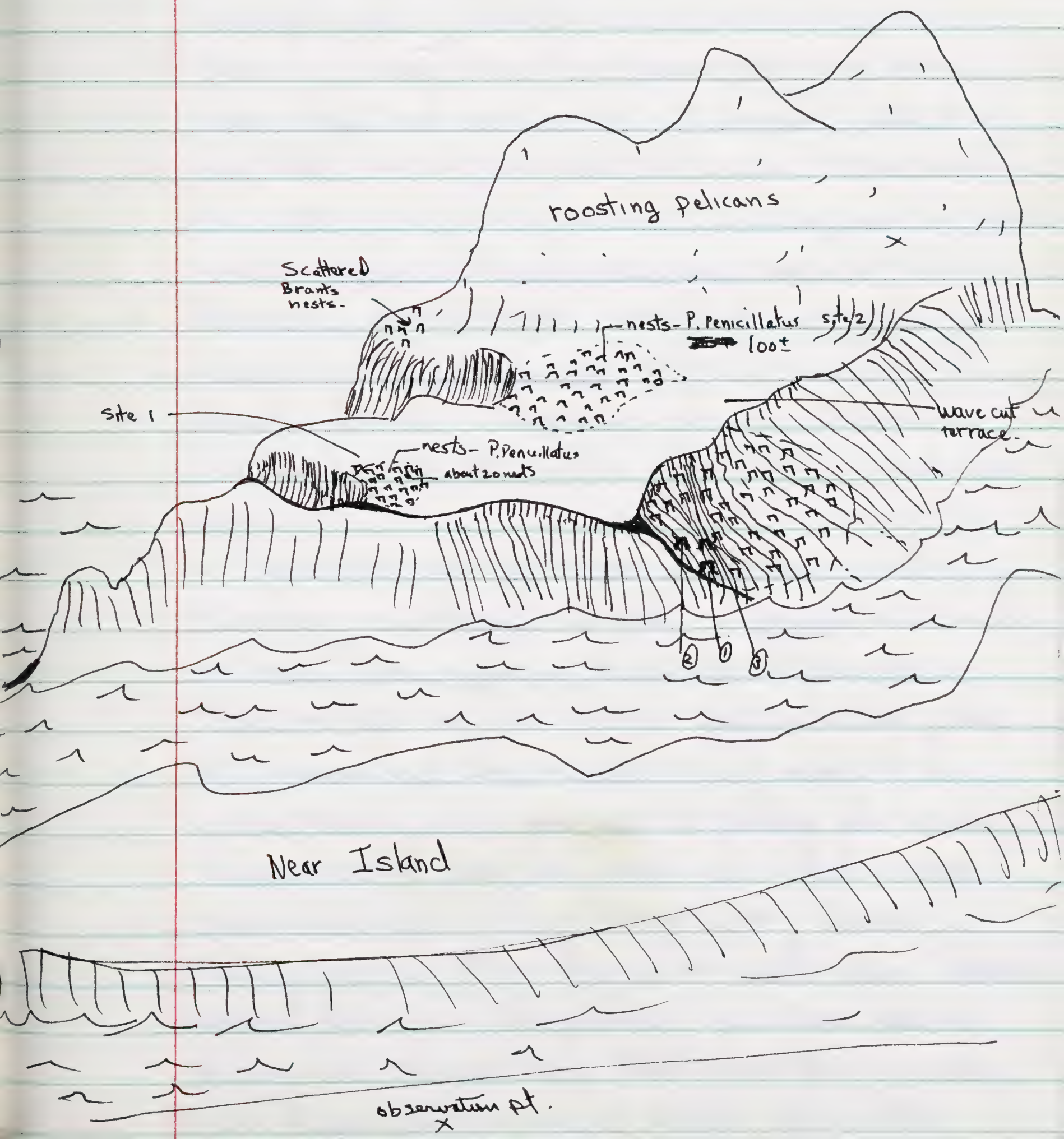
400- 4 " " remaining parent

405- 2- adult leaves.

Bill Arvey Journal

July 31

Pt. Lobos Preserve, Monterey Co. Bird Island
Sketch of Bird Island as seen from Observ. Pt.



Bird survey Journal.

July 31

Pt. Lobos.

9:30 AM. arrived at colony. Overcast w/ low clouds - Fog.

Temperature 60-65°. Observing Bird Island from about 150 yd.

943. Sun beginning to break through. We have 3 general nesting groups of Brandt's Cormorants under observation.

There is a colony at the far Southern part of the wave cut terrace which will be number 1. It appears to have many more nests hidden from view but I can observe about 30 nests. The center (number #2) colony has 100 ± nests which appear to be under different stages of construction, rebuilding and incubation. Colony to N. side of rock, on sloping rocky part beneath the terrace, (number 3) appears to be as extensive with perhaps 100 nests. Cormorant activity is rather slow right now, may pick up as the sun appears.

Some cormorants can be seen in various courtship displays, even though the birds in question are associated w/ nests. Many appear w/ bright blue gular pouches.

About the nests are seen Heermann's gulls, adults and juveniles, and when we first came we saw a large number of this species roosting w/ pelicans near the parking lot. Some may be seen walking among the cormorant nests without causing great disturbances. Brown Pelicans are very abundant in many plumage stages; these do not walk among cormorant nests and there is a sharp dividing line between roosting pelicans and cormorant nest. Also common here are western gulls, though not numerous at present. At least one

Bill Arvey Journal

July 31

H. Lobs. - Pre fledging Western has been seen on Bird Island. Most of the observed Westerns have been adults here.

Also foraging among the Cormorant nests ~~are~~ are 1-4 Black turnstones. Their calls may be heard above the gulls at times. These birds walk around the rocks presumably picking off flies.

Many of the cormorants can be seen fluttering the gular area as they sit in full brooding position (or incubating). Whether the nesting season is almost terminated is difficult to determine because many are in tight nest protection positions and one cannot see nest contents. A high proportion of large young can be seen however. In colony 1 many young appear to be $> \frac{2}{3}$ grown, young cannot be seen in early developmental stages, altho they may be present beneath parents. Many birds are scurrying around w/ seaweed, some nests are being broken up and carried away.

10:05 AM. Coming and going to colony is at a very low db.

We will hereby concentrate observations on 3 nests in group 3. They form a triangle with the apex toward us.

Nest 1, 1 adult sits incubating or brooding closely w/ mouth $\frac{1}{2}$ open fluttering gular area. At 1008 appears to be alone.

Nest 2 contains 3, $\frac{1}{2}$ grown young. An adult stands over them, not brooding at 1009.

Nest 3 at right side of triangle contains 2 or 3 (?) from $\frac{1}{2}$ to $\frac{2}{3}$ grown young. On parent guards, w/ back to us at 10¹⁰

Bird Arvey Journal

July 31

Pt. Lobos

10¹⁰ 2 birds seen holding wings out in drying position, is held for more than 10 seconds.

10¹¹ Another bird standing to the left of ① hasn't committed himself to the nest now flies away. Nest 2, one young is feeding, head disappears in gullet for 10 seconds or so.

10¹² - 2 - now parent stands erect, flutters gular area.

10¹³ 3 - a adult still standing w back toward us.

2 - adult threatens wandering bird.

10¹⁵ Sounds of squawking gulls through out colony.

Definite cormorant sounds not heard.

10¹⁶ a turnstone works from the triangle, jolting, picking for flies, or perhaps bird or fish remains.

Cormorants make their ways freely through this triangle, as it seems to be a pathway to the upper rocks.

10¹⁷ - 2 - adults is picking at the sides of the nest, probably rearranging the seaweeds.

The 3 turnstones are in the immediate area of the triangle.

10¹⁸ young in 2 flutters gular area. 5 birds are standing in vicinity of ①, apparently none belongs to it.

10¹⁹ one young keeps in ②

10²² - all adults seen preening.

10²⁵ - 2 - young standing upright, there are 2 definitely. One of the young has mouth wide open, gular fluttering.

Bice Arvey Journal

July 31

77. Lobos.

10²⁹ An adult lands near 2, apparently doesn't belong to it, but to a nest near here, but hidden from our view.

10⁴⁵ -1- incubating adult threatens West. gull which approaches within about 3 feet, but does not arise from the crouched brooding position. In this threat the head and neck are shot straight out in the gulls direction, and then repeated, in the manner of a snake.

10⁵⁶ -1- a young seen beneath parent, appears quite young, in much earlier stage of development than the others observed.

10⁵⁷ -1- Young feeds by putting head into parents pouch, no further, head doesn't enter throat. 4 feedings in rapid succession are thus observed.

11¹²/₃ - A dult arrived 10 minutes ago, sat below nest, preening. Hasn't yet fed young. Now both parents present at 3.

11¹⁴ Both adults preening. at 3

11²⁰/₃ - young begging from both parents with a sidewise motion very much like that of Pelagic Corm.

11²⁰ feeding at 3 - from parent which had been at nest. feeding lasts 10 seconds. young still begs.

11²¹ -3 Feeds from newly arrived parent.

11²² -3 - another feeding contact. Note: Young of Brandt's cormorant do not have a similar red gular patch that is conspicuously present in pelagic cormorant young.

11²⁴ Young rises and stretches at 2.

Bird Arvey - Journal

July 31

Pl. Lobos.

11³⁵ Adult recently arrived at 2 - now standing and preening.

Note: In contrast with the pelagic cormorant, the brandts do not usually come ~~down~~ directly to the nest site to relieve the parent. I have usually seen them walk not fly up to the nest and then stand about drying & preening before approaching the nest.

11³⁵ - 2 - newly arrived parent now walks to cliff face, looks around, preens a little, ~~looks~~ steps closer to edge - now flies into water directly below, swims 4-5 feet out and dives - a long dive - over 60 seconds.

11⁴⁰ a bird stands 1 foot to right of 2 but not clearly associated with it, appears to be drying, preens.

11⁴⁰ an adult has been standing near 1, not associated yet.

Diving and feeding occurs often directly below nest sites, as well as bathing.

11⁴⁶ - now newly arrived at 1 seems to associate w/ nest - the parent rises off nest, new one moves in takes its place and settles down. Parent which rose stretches and preens.

11⁴⁹ - 3 - feeding takes place.

11⁵⁰ - 3 - another " "

11⁵² - 2 - appears unallented. An adult stands 2 feet above on a rock - moves up and away.

Bird Arvey - Journal

July 31

11⁵⁴ -3- Adult returns

-1- relieved parent still stands by preening.

Many times upon arrival, the birds do not fly directly in but hop up a few feet at a time from the water's edge. This is especially true for group 3 which is nearest the water.

12⁰⁴ Ceasing observations at 2 since uncertainty has arisen as to whether there are 1 or 2 nests there.

Cormorants can be seen entering the water, and leaving, on a sloping shelf below group 3. After leaving water, feathers appear slightly wet, but not to a great degree.

Drying consists of 2 or 3 strong wing flaps, preening, but very few extended periods of wing spread and holding.

Ceasing observations here for the day.

3 PM. Whalers Cove Pt. Lobos. Here we meet George Chaniot and his wife - also the ranger naturalist Ted Vander (built?) (half?). Out on the edge of kelp in Whaler's cove is a ♂ eared grebe swimming around. George takes us over to Guillemot Rock on the Whalers cove trail to observe cormorants there. This rock is about 10' from the mainland, and about 50' high with Pelagic, Brandt's Cormorants, pigeon Guillemots, and W. gulls nesting on it. Pelagics are on the E side of the rock, as usual on the steeped faces and have about 10 pairs. Brandt's are on top the rock and in some of the more protected shelves of the face.

Bill Arvey journal.

July 31 Pt. Lobos. The dividing line between Brant's and pelagic nests is not sharp because pelagic and Brant's nests may be close together. The determining factor I believe is the precariousness of nest site position.

Two pelagic nests are seen with dead young. 1 has a dead young and a live healthy one living on top of the dried carcass. This one didn't die too long ago as judged by its stage of development. In the other are probably 2 dried carcasses with a clutch of 3 eggs layed on top of the bodies. They are unattended however. That pelagic young do fall from nests is evidenced by our seeing a young pelagic trying to get back up to its nest from a lower position to which it fell. It does not seem possible for it to do so and the parents have ignored it up to now. I doubt if it is being fed. Pigeon guillemots are nesting on the rock and can be seen entering nests with small fish in beaks.



Bico Arvey Journal

Aug 14, 1965

Mono Lake, Mono Co., Calif. Stopped at 3:45 PM on way to hike. I am amazed at the huge numbers of shore birds observed. I walked down to the far north shore, where columns of clay or mudstone are weathered into 20+ foot spires. ~~Some~~ Some of these columns are in the water, where gulls are roosting, and some are on shore and contain great numbers of roosting blackbirds. From the car, the vegetation is sage brush, which gives way to a higher, more dense thicket farther down. After this a long sloping marsh-grassland continues to the shoreline. Large numbers of California gulls, adults and first year birds, line the shore and some can be seen further out in the lake also. Possibly ring-bills are present but my gull identification does not permit positive identification. Great numbers of Northern Phalaropes are seen at the water's edge, some even outside the water working in the pools. About 10 avocets were counted, all along the shore or flying near shore. The most common bird by far here is the eared grebe which can be seen sitting on the water far out into the lake in quite dense concentrations, possibly extending to the South Side.

Also along the bank can be seen about 15 of what appear to be long billed dowitchers, altho none shows any remnant of breeding plumage. This identification is very questionable.

At 10:30 PM we meet Jim & Barrie Blattau at the Mammoth Lakes turnoff. We spend the night in Mammoth village after buying some camping equip. at sporting goods store, i.e. Primus stove 12⁰⁰, boots for Barrie 12⁰⁰, sleeping bag liners, ground cloth

Aug 14 cont'd

It rained til late into the night, hard at times. Apparently rain has occurred daily in the afternoons for $1\frac{1}{2}$ months here.

Aug 15, Sun.

We take Jim's car to Agnew meadows, after packing up. Here we begin our hike to 1000 Island Lake and other points. We start with clear skies, up the high trail to 1000 Is. Lake. The trail leads up a ridge to the east of Agnew meadow with a good angle. We soon reach an altitude where we begin traversing the length of the long canyon, which eventually reaches Devils Postpile to the south. Along the trail are willows, gooseberries, many flowering annuals, grasses, and scattered conifers. We see white crowned sparrows, pine siskins?, Cassin's finches, Empidonax sp., Pine grosbeaks, Oregon juncos, Clark's nutcrackers, red-sh. flickers. In the afternoon it begins raining. By this time we had decided to take the low trail instead of the high trail and had descended, cross country from the canyon wall to the trail below, about 1000'. We made camp at 4^{PM} at the head of a cyclopean stair which leads up to Garnet Lake turnoff pt. Rain continued til late at night.

Aug 16

We packed up and left about 12 A.M., returning to Agnew Meadow because of the terrible weather. After driving over to Devils Postpile we went to Lunz Lake which is about 9

Aug 16

beyond Lee Vining. Here we camped, about 3 miles above the lake. Many dead trees are in this area which appears to have been flooded during this uncommonly wet summer. Possibly other factors have led to the flooding of certain spots but most likely this is the wettest summer here in many years.

Aug 17

we get up and attempt a hike to Saddlebag Lakes, but are turned back because of heavy rain - sleet. We had gone 3 miles and had just about reached Lundy Pass. We saw several flickers on the way up this canyon. Rain continues til late at night.

Aug 18 - We get up and drive to

Aug 21 - Santa Fe Bay Bill Area -

Harlequin Duck - 1

Western Sandpiper - 220

Willet 15+

Western Gull - 25+

Caspian Tern - 2

Ferris Ring Billed Gulls 7

Northern Phalarope - 1

Molokai Pt.

Forsters Tern - 2

Willet - 1

W. Gull - 7

San Pablo Pt. Marins

Brown Pelicans - 150

W. Gull - 30+

Willet Gull - 5

Ring-Billed Gull - 25

Western Gull - 1

Young Gull - 2

2 Cormorants - 2000

Berkeley Marine Park

Forsters Tern - 7+8

W. Gull - 50+

Ring Billed Gull - 10

Bonaparte's gull, 200 Northern plover 4

Galif Gulls - 2000 for Santa

C. cactus - 2, 2 brown pelicans

Bird Arvey Journal 1965

Sept 8. Trip to Farallon Islands via USCGC Willow from Yerba Buena Island, at 8 AM.
Day overcast, slight NW breeze, Temp in 60's°
In S.F. bay Western and Ring Bill gulls seen at mornings and further out we pick up elegant or royal terns also. At first I thought these to be all Royals because of bill shortness, thickness and general size but now am undecided because of the range of variation seen of these characters. In the middle of the bay these terns are quite prevalent, sometimes fly in front of ship as if to see what is "scared up" by the bow. Once I observed a Herman's gull giving chase to one which was carrying a fish in bill, and was accompanied by another tern. The terns stayed together as the gull chased after them, and called loudly, as did the gull. No actual aggressive contact was seen however. Often I saw a loose group of 3 or 4 terns flying over the same area, probably pursuing the same school of fish. In the vicinity of the Golden Gate Bridge, where a broad ^{one or, or both of} zone of turbulence is present, many terns ~~of~~ of these species feed at the interface. The turbulence is due to tidal action I presume, and cause a surface rippling much like the rapids in a stream, and I sure that there is a good current running here. Herman gull are seen very frequently and almost any dark bird resting on the surface proves to be this species.

1965 Bill Arvey Journal

Sept 8 Many times I see them in the water beside pelicans, and have seen them dive with them, coming down beside a pelican which has just dove for food, waiting for scraps or harassing I suppose. A willet is seen flying by headed for the inner parts of the bay, and 2 kingfishers are seen flying by the ship. The water is very calm til we pass through the gate but even then the ship only rocks slightly.

9:15 - a long line of cormorants (D.C.S?) is spotted on S.F. side, about $\frac{1}{2}$ mile away flying out. Position is close to opposite the golden gate headland, the last point of land along the coast. The line appears to be over a mile long, sometimes of 3 or 4 abreast, at others of only a single line, but the whole formation is that of a line. There must be over a thousand individuals in the group. The ones in front touch down, and those following always go a little beyond before alighting. They are accompanied and flanked by Herring gulls.

9:30-11:15 Sooty shearwaters are beginning to be seen, by 11:15 are going by very regularly, and can have 50 or so in sight at all times. Some are seen resting on the water also. Now we are out of sight of land and still a few cormorants can be seen, though few, and always alone. Since we passed the large cormorant flight, murre have been seen in ones, twos or groups on the water.

Bird Arvey Journal 1965

Sept 8 at first I mistook them for loons, but they didn't really look like loons.

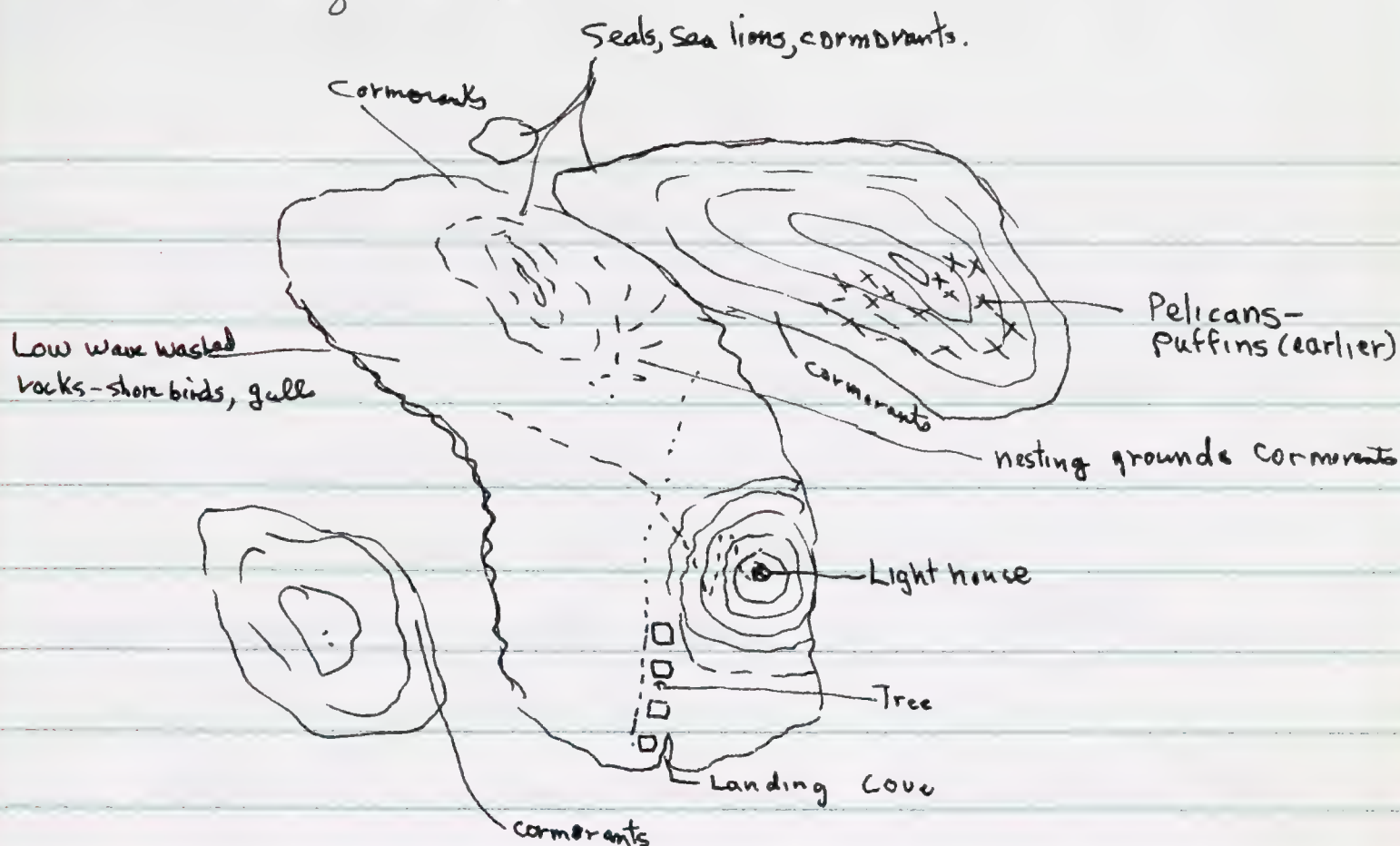
While we pumped gas and water into another vessel two land birds, one a nondescript type of thrush, grouse, or vireo, flew round and round the ship looking for a place to land. It lit momentarily on some masts, but cannot decide what it is. Another, a sparrow possibly white crowned did likewise but was so exhausted that it even plopped down amidst some moving men below. It then scrambled off again.

We put ashore at the Farallones in a landing boat and were hoisted up in a crane from this. Then I set out to see what is here. The whole island is just a big rock pile of granite, which has decomposed in some places to form a thin soil, which along with the guano has been used by rabbits and mice as burrows.

The whole place has the aspect of a breeding ground. The ground and rocks are white washed, and feathers are everywhere, as well as the flies which gather over everything. The lighthouse is on the main rock, the highest point on the island. The most prominent feature of the avifauna are the everpresent Western Gulls, in all plumages. Many are seen dead, lying about in all stages of decomposition. The next major aspect is the cormorant population. All the rocks, all the water overlooks have the black bodies huddled on them.

1965

Bice Arvey Journal

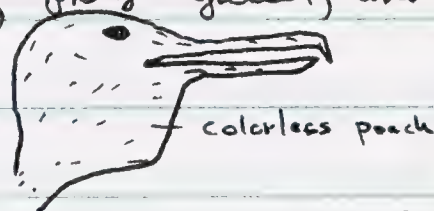


In my brief check, Brandts seem to greatly outnumber pelagics here, which was verified by Rich Tenaza later, who also told me that about 50 nests were built this year by Double Crests (Farallon Cormorant). He said also that Brandts Cormorants still had some nests on another part of the island, and I found 2 nests with young brandts. One had a nestling, single, and was $\frac{1}{4}$ - $\frac{1}{2}$ grown, still had pinfeathers for primaries. As I peered over a nearby outcrop, about 75 cormorants including the parents of these, made a mad dash for the water. However, instead of flying directly to the water from where they stood, they all ran to the ledge above and jumped in in waves, the ones at the rear waiting for the ones in front to leap. Another nest had 2 nestlings which I examined. One was slightly larger than the other one and neither seemed startled at all by my approach if I have interpreted their gestures correctly. In any case they made no movements of panic, or escape. As I approached this larger nestling he became excited, and jabbed at in

Bill Arvey Journal 1965

Sept 8

~~the~~ my direction with a half open beak, fluttering his gular area all the while. His nest mate lay there languidly, flies crawling across his open eyes even. I am amazed at the size of even this nestling's pouch, when he opened it, it seemed as if there were no head, only gullet, and I could almost see into the crop.



The mouth lining had a bluish cast, altho not a deep coloring. In this area there were many abandoned nest sites, dry and brown colored. Many caves or vents in the rock are present here and in one on the North side, near this nesting spot was a warbling vireo poking around. He seemed rather confused as he pecked at flies, ~~with~~ and would stand with locked head looking around for moments at a time.

Other small birds such as Wilson warblers were seen foraging around the rocks in such a manner. After an hour and $\frac{1}{2}$ approximately we were told to get aboard.

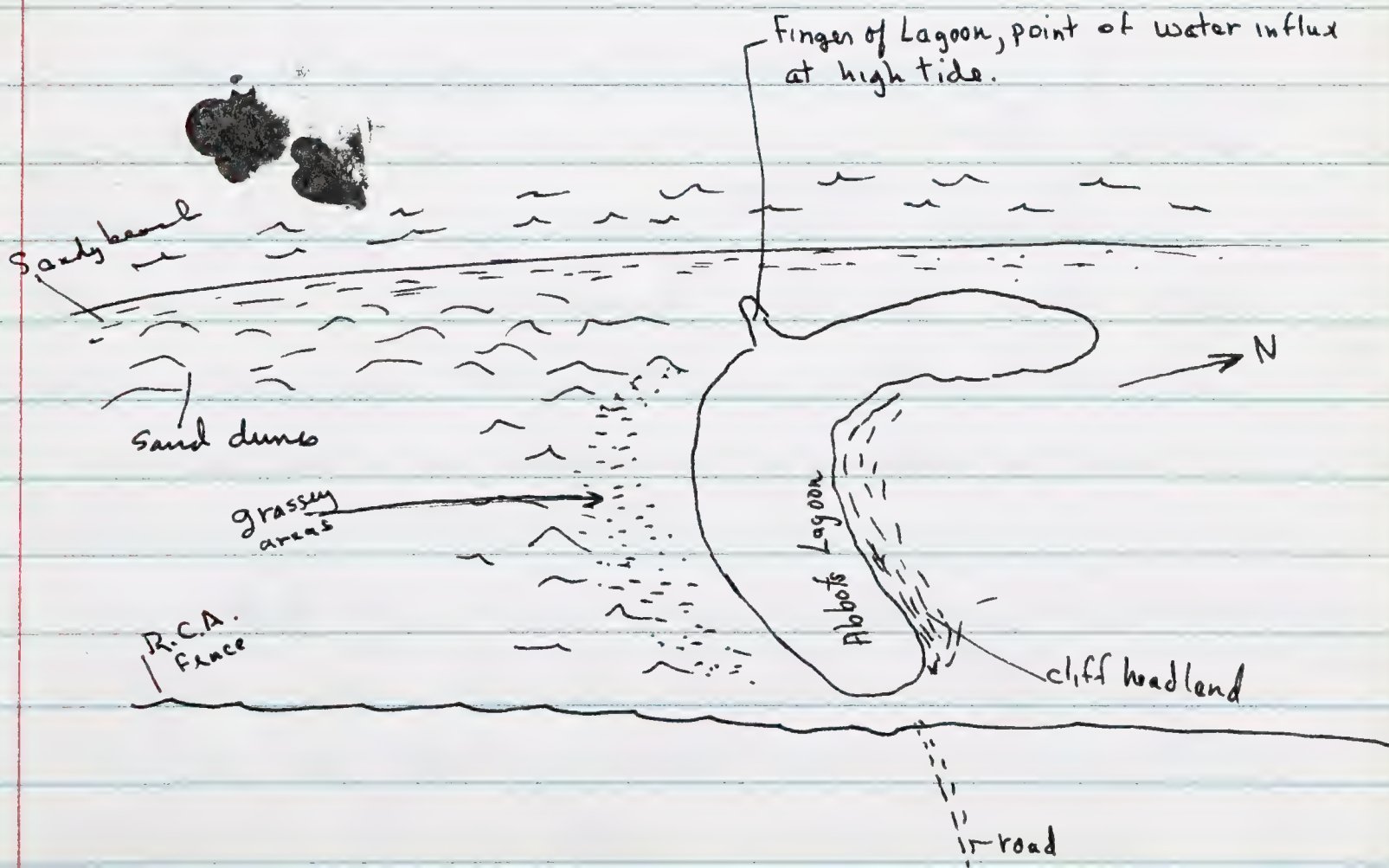
Going back I met Rich Tenaza of S.F. State and Jim Veitch of Loma Linda U. Rich had spent all summer, off and on working on Cormorants, Jim had spent the entire time working with ashby petrel breeding biology. On the way in we watched birds, the weather was beautiful. We saw into an immense number of Sooty Shearwaters as we passed through golden gpts. ...

1965

Bill Arvey Journal

Sept 12

Birding trip to Pt. Reyes Peninsula. Leave Berkeley at 645 w/ Nick Verbeek, Marty, and my myself, stop first along some tidal sloughs at Tomales, and see some pie billed Grebes, a kingfisher, pintail, egret. The day is overcast so far but mild, with little breeze. We take the road all the way out to the point, stopping at the cypress grove to see Wilson's warblers, Empidonax, Wood pewee, blackbirds, Calif Quail, Purple finches. At the point we discover that we cannot enter the final $\frac{1}{4}$ mile which leads to the lighthouse. We scare up a swainson thrush here, white crowns, savannahs, song sparrows. Looking down to the water, Sea lions are seen on the rocks, ring bill gulls, cormorants, no Murres seen. We drive back and then go out to Abbotts Lagoon.



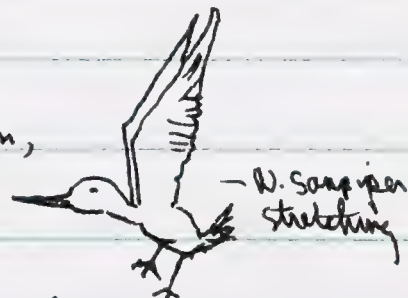
1965

Bird Arvey Journal

Sept 12.

We work along the south shore at about the point where the sand gives over to the procumbent vegetation. The sun comes out and the day becomes quite warm. Thousands of Western and Least sandpipers are seen in their usual feeding flocks at the water's edge. No attempt is made to estimate total numbers, or the ratios of Western to Least. I have seen no differences other than the morphological criteria for distinguishing these two sandpipers, probably due to ~~in~~extensive observation. Large, concentrated flocks of these are seen over in the grass running as we approach. They all face into the wind, and many preen. At our approach, many leave, others show nervousness, and most go into a huge stretch of wing and leg as we come nearer, in preparation for flight. This stretch consists of raising up both wings straight overhead, then straight out with first one leg then the other.

Pectoral sandpipers are observed again, as we saw them last week. These are ^{w/ yellow legs,} obviously bigger sandpipers, seen in groups of 2 or maybe 3 and spend more time on the grasses areas away from the water line, although one was seen to go to the water edge and poke around briefly.



Also we have identified a Bairds sandpiper, and Nick believes that their chatter song is distinctive and remembers it from previous studies. Bairds is slightly larger than Westerns, has black legs, scaled back, a buffy, black streaked breast, and also spends more time away

1965

Bill Arvey Journal

Sept 12

from the water, is seen running around the sand 10 yards or more from the edge. Northern Phalaropes are seen both in the water a foot or so from the edge and on the bank catching flies in its typical foraging behavior, running in spurts with neck outstretched. Very often seen near small puddles.



A greater yellowlegs is seen in the water also. This bird is smaller than the willet, but ducks its head similarly sometimes, has a characteristic 3 note call, is not very spooky about our presence. 5 white pelicans come over the lagoon, and the brown is commonly seen. One cormorant (sp?) is seen out on the bay fishing. Some ruddy ducks in very drab plumage are seen and some ~~white wing~~ ^{white wing} scoters. One great blue heron is here. A marsh hawk flies in low and all the small shore birds scatter. He then catches a thermal, sails up and away. Semipalmated Plover are very abundant here, seen most frequently foraging a yard or so away from the water.

Marbled godwit is common both at the water and in the grass, and one golden plover is seen among them. Only 1 or 2 willet are seen.

Black bellied plover are not too common today, we see less than 5.

GROUSE, Blue
 Spruce
 Ruffed
 PTARMIGAN, White-tailed
 GROUSE, Sharp-tailed
 Sage

 Bobwhite
 ✓ QUAIL, California
 Gambel's
 Mountain
 PHEASANT, Ring-necked
 Chukar
 PARTRIDGE, Gray

 CRANE, Sandhill

 RAIL, Clapper
 Virginia
 Sora
 RAIL, Yellow
 Black
 GALLINULE, Common
 ✓ COOT, American

 OYSTERCATCHER, Black

 ✓ PLOVER, Semipalmated
 Snowy
 ✓ Killdeer
 PLOVER, Mountain
 American Golden
 Black-bellied
 Surfbird
 TURNSTONE, Ruddy
 Black

 SNIBE, Common
 CURLEW, Long-billed
 Whimbrel
 ✓ SANDPIPER, Spotted
 Solitary
 ✓ TATTLER, Wandering
 Willet
 ✓ YELLOWLEGS, Greater
 Lesser
 Knot
 SANDPIPER, Rock
 Pectoral
 Baird's
 ✓ Least
 Dunlin
 ✓ DOWITCHER, Short-billed
 Long-billed
 ✓ SANDPIPER, Stilt
 Western
 ✓ GODWIT, Marbled
 Sanderling

 AVOCET, American
 STILT, Black-necked

 PHALAROPE, Red
 Wilson's
 ✓ Northern

JAEGER, Pomarine
 Parasitic
 Long-tailed
 Skua

 GULL, Glaucous
 Glaucous-winged
 Western
 Herring
 California
 Ring-billed
 Mew
 Bonaparte's
 Heermann's
 KITTIWAKE, Black-legged
 GULL, Sabine's
 TERN, Forster's
 Common
 Arctic
 Least
 Royal
 Elegant
 Caspian
 Black

 MURRE, Common
 GUILLEMOT, Pigeon
 MURRELET, Marbled
 Xantus'
 Ancient
 AUKLET, Cassin's
 Parakeet
 Rhinoceros
 PUFFIN, Tufted

 ✓ PIGEON, Band-tailed
 ✓ DOVE, Rock
 White-winged
 Mourning
 Spotted
 Ground

 CUCKOO, Yellow-billed
 Roadrunner

 OWL, Barn

 OWL, Screech
 Flammulated
 Great Horned
 Snowy
 Pygmy
 Burrowing
 Spotted
 Great Gray
 Long-eared
 Short-eared
 Saw-whet

 Poor-will
 NIGHTHAWK, Common
 Lesser

 SWIFT, Black
 Vaux's
 White-throated

HUMMINGBIRD, Bl.-chinned
 Costa's
 Anna's
 Rufous
 Allen's
 Calliope

 ✓ KINGFISHER, Belted

 FLICKER, Yellow-shafted
 Red-shafted
 WOODPECKER, Pileated
 Gila
 Acorn
 Lewis'
 SAPSUCKER, Yellow-bellied
 Williamson's
 WOODPECKER, Hairy
 Downy
 Ladder-backed
 Nuttall's
 White-headed
 Black-backed Three-toed
 Northern Three-toed

 KINGBIRD, Eastern
 Western
 Cassin's
 FLYCATCHER, Ash-throated
 ✓ PHOEBE, Black
 Say's
 FLYCATCHER, Traill's
 Hammond's
 Dusky
 Gray
 Western
 ✓ PEWEE, Western Wood
 FLYCATCHER, Olive-sided
 Vermillion

 ✓ LARK, Horned

 SWALLOW, Violet-green
 Tree
 Bank
 Rough-winged
 ✓ Barn
 Cliff
 MARTIN, Purple

 JAY, Gray
 Steller's
 Scrub
 MAGPIE, Black-billed
 Yellow-billed
 ✓ RAVEN, Common
 ✓ CROW, Common
 Northwestern
 JAY, Pinyon
 NUTCRACKER, Clark's

 CHICKADEE, Black-capped
 Mountain
 Chestnut-backed
 TITMOUSE, Plain
 Verdin
 BUSHTIT, Common

NUTHATCH, White-breasted
 Red-breasted
 Pygmy

 CREEPER, Brown

 Wrentit

 Dipper

 WREN, House
 Winter
 Bewick's
 Cactus
 Long-billed Marsh
 Canyon
 Rock

 Mockingbird
 Catbird
 THRASHER, Bendire's
 California
 Le Conte's
 Crissal
 Sage

 ROBIN
 THRUSH, Varied
 Hermit
 Swainson's
 BLUEBIRD, Western
 Mountain
 SOLITAIRE, Townsend's

 GNATCATCHER, Blue-gray
 Black-tailed
 KINGLET, Golden-crowned
 Ruby-crowned

 WAXWING, Bohemian
 Cedar

 Phainopepla

 SHRIKE, Northern
 Loggerhead
 ✓ Starling

 VIREO, Hutton's
 Bell's
 Gray
 Solitary
 Red-eyed
 Warbling

 WARBLER, Orange-crowned
 Nashville
 Yellow
 Myrtle
 Audubon's
 Black-throated Gray
 Townsend's
 Hermit
 MacGillivray's
 Yellowthroat
 ✓ CHAT, Yellow-breasted
 ✓ WARBLER, Wilson's
 REDSTART, American

✓ SPARROW, House
 ✓ MEADOWLARK, Western
 ✓ BLACKBIRD, Yellow-headed
 Redwinged
 Tricolored
 ORIOLE, Hooded
 Scott's
 Bullock's
 ✓ BLACKBIRD, Brewer's
 ✓ COWBIRD, Brown-headed
 Tanager, Western
 GROSBEAK, Black-headed
 Blue
 BUNTING, Lazuli
 GROSBEAK, Evening
 FINCH, Purple
 Cassin's
 House
 GROSBEAK, Pine
 FINCH, Gray-crowned Rosy
 ✓ REDPOLL, Common
 ✓ SISKIN, Pine
 GOLDFINCH, American
 Lesser
 Lawrence's
 CROSSBILL, Red
 TOWHEE, Green-tailed
 Rufous-sided
 Brown
 Abert's

✓ SPARROW, Savannah
 Grasshopper
 Vesper
 Lark
 Rufous-crowned
 Black-throated
 Sage
 JUNCO, Slate-colored
 Oregon
 SPARROW, Tree
 Chipping
 Brewer's
 Black-chinned
 ✓ White-crowned
 Golden-crowned
 White-throated
 Fox
 ✓ Lincoln's
 Song
 LONGSPUR, Lapland
 BUNTING, Snow

Species occurring regularly, but only locally, or to just within the N, E, S or W border of area covered by this checklist: Laysan Albatross, Trumpeter Swan, Harris' Hawk, Turkey, Upland Plover, Laughing Gull, Franklin's Gull, Gull-billed Tern, Ringed Turtle Dove, Inca Dove, Hawk-owl, Elf Owl, Broad-tailed Hummingbird, Gilded Flicker, Wied's Crested Flycatcher, Least Flycatcher, Boreal Chickadee, Veery, Lucy's Warbler, Virginia's Warbler, Bobolink, Bronzed Cowbird, Summer Tanager, Cardinal, White-winged Crossbill, Lark Bunting, Gray-headed Junco.

Irregular or casual in Pacific States: Least Grebe, Short-tailed Albatross, Least Petrel, Wilson's Petrel, Red-billed Tropicbird, Blue-footed Booby, Brown Booby, Magnificent Frigatebird, Reddish Egret, Louisiana Heron, Yellow-crowned Night Heron, Roseate Spoonbill, Common Eider, King Eider, Harlan's Hawk, Zone-tailed Hawk, Gyrfalcon, American Oystercatcher, Sharp-tailed Sandpiper, Semipalmated Sandpiper, Buff-breasted Sandpiper, Ruff, Craveri's Murrelet, Horned Puffin, Black-billed Cuckoo, Tropical Kingbird, Scissor-tailed Flycatcher, Eastern Phoebe, Brown Thrasher, Black-and-white Warbler, Tennessee Warbler, Parula Warbler, Magnolia Warbler, Black-throated Blue Warbler, Black-throated Green Warbler, Chestnut-sided Warbler, Blackpoll Warbler, Prairie Warbler, Palm Warbler, Ovenbird, Northern Waterthrush, Painted Redstart, Orchard Oriole, Baltimore Oriole, Rusty Blackbird, Rose-breasted Grosbeak, Indigo Bunting, Painted Bunting, Dickcissel, Black Rosy Finch, Sharp-tailed Sparrow, Harris' Sparrow, Swamp Sparrow, Chestnut-collared Longspur. (Species for which there are only one or two substantiated records for the area are not included in the above list)

NATIONAL AUDUBON SOCIETY

Conservation Resource Center
 2426 Bancroft Way, Berkeley, California 94704

AUDUBON DAILY FIELD CARD BIRDS OF THE PACIFIC STATES (California, Oregon and Washington)

Locality PETREL REEF, LUNDA, CYPRESS GROVE, REDOTS LAGOON

Observer(s) NICK BILL

Date 9/12/65 Time 7 AM to _____ Wind _____

Weather OVERCAST 114 115 116 Totals: Species _____ Individuals _____
 (Solid lines separate orders; broken lines separate families)

LOON, Common
 Arctic
 Red-throated
 GREBE, Red-necked
 ✓ Horned
 Eared
 Western
 ✓ Pied-billed 3
 ALBATROSS, Black-footed
 Fulmar (found dead)
 SHEARWATER, Pink-footed
 Pale-footed
 New Zealand
 ✓ Sooty
 Slender-billed
 Manx
 PETREL, Fork-tailed
 Leach's
 Ashy
 Black
 PELICAN, White
 ✓ Brown
 CORMORANT, Double-cr.
 ✓ Brandt's
 ✓ Pelagic
 ✓ HERON, Great Blue 1
 Green
 ✓ EGRET, Common 1
 Snowy
 HERON, Bl.-cr. Night
 BITTERN, Least
 American
 IBIS, Wood
 IBIS, White-faced
 SWAN, Whistling
 GOOSE, Canada
 BRANT, Black
 GOOSE, Emperor
 White-fronted
 Snow
 Blue
 Ross'
 DUCK, Fulvous Tree

Mallard
 Gadwall
 ✓ Pintail
 TEAL, Green-winged
 Blue-winged
 Cinnamon
 WIDGEON, European
 American
 Shoveler
 DUCK, Wood
 Redhead
 DUCK, Ring-necked
 Canvasback
 SCAUP, Greater
 Lesser
 GOLDENEYE, Common
 Barrow's
 Bufflehead
 Oldsquaw
 DUCK, Harlequin
 ✓ SCOTER, White-winged 1
 ✓ Surf 2
 Common
 ✓ DUCK, Ruddy
 MERGANSER, Hooded
 Common
 Red-breasted
 ✓ VULTURE, Turkey
 CONDOR, California
 Goshawk
 HAWK, Sharp-shinned
 Cooper's
 ✓ Red-tailed
 Red-shouldered
 Swainson's
 Rough-legged
 Ferruginous
 EAGLE, Golden
 Bald
 ✓ HAWK, Marsh
 Osprey
 FALCON, Prairie
 Peregrine
 HAWK, Pigeon
 ✓ Sparrow 11

Bird Arvey Journal

1965

Sept 19, 1965

Suisun Bay Marsh, on State Hwy 21,
≈ 5 mi E. of Benicia Calif. A right turn is taken, going
toward Sacramento, on a small road leading
to a naval fleet post. About 100 yds from the
intersection, this small road opens up into parking lot
and turn around area. Sitting on a fence post here
was a Loggerhead Shrike, and two rosy finches.
As we approached the fence the shrike flew off, and
a Lark Bunting ♀, jumped up onto the wire.
Calamospiza melanocorys. Both Nick Verbeek and I verified
the sighting. Field marks - A buff-white

Bill Arvey Journal

w Larry Wolf.

Oct 6, 1965 - Leave^{San Fran} from Buena Is. on U.S.C.G Red Birch at 8:00 Am. Day clear, temp warm, no breeze yet. Little Bird life beside a few W. & Calif. gulls. A few more gulls seen in the Bay, 1 Tern, Royal(?) went across the bay. 1 brn. Pelican spotted near treasure Island.

Walter Baldwin - Light Ship. — San Francisco

Only 1 Tern spotted on way out to Golden Gate - Royal. This ship is smaller than the willow and designed differently. We met the Captain in the officer's mess, he is very nice person, explained about the trip etc. Tells us that the Red Birch is a new ship, recently sailed around from Maryland. Passing thru the gate the wind picks up, we can see a broken up fog bank a few miles offshore. At this point, near the bridge, we see the usual turbulent zone, with many gulls here, mostly Heerman's and Calif - Ring Bills. Water gets choppy right out beyond the bridge - Captain says because of waves moving in and tide moving out. A few cormorants can be seen flying into the Bay in groups of 5 - 15 - 25 or so. No huge flocks are seen like I did last time, and the coastline is being more strongly swept by waves today. The Heerman gulls drop out of the picture pretty well after we pass the Outer gate. Ring bills & or Calif. gulls seem to follow the ship mostly. Murres are seen in the open water, are quite numerous most of the way to the island. The majority are in winter plumage, but some have all dark brown heads, maybe young.

1965

Bill Arvey Journal

Oct 6

Murres almost always dive away from or sit on the surface away from the approaching boat. Only on a couple of occasions did one take wing. The swell and the wind are hitting the boat from the Northwest while the boat is on a westerly course. This causes a tremendous amount of rolling since the sea is rather high. Sooty shearwaters are seen occasionally, and also pink footed Shearwaters which have white under parts. These are at least as numerous as the Sooty now. Possibly slender bills or New Zealand Shearwaters are here but can't be positively identified by us. About 3 fulmars are seen 2 light and 1 dark. Haven't gotten a real close look but see birds^(fulmars) flying like shearwaters and gulls combined. Actually they are like a slower, larger, stubbier shearwater in flight. They seem to flap more often in rather Gull-like beats. Two ~~very~~ large Gull like birds, dark but w/ white patches in the wings are seen from a distance. These we take to be Skuas, but haven't seen them close yet. At the Farallones we have a bit of calm on the leeward side of the Island, where the boat comes out and picks up men & supplies. Captain decides not to let us go ashore because it's too rough and besides, Larry is a wee seasick so we don't go ashore. We turn back soon and the trip back is smoother because we ride over the swells. In the bay again at 330, 1 elegant tern, several Royals. About 2 miles N of the Oakland Bay bridge I spot a parasitic Jaeger down in the water. Larry sees another. They pick up and fly off the bow and alight on

Matting

1965 Bill Arvey Journal

Oct 6 the water and commence bathing. We can see no special central tail feather on these. They are both light breasted and have buffy-dark chest bands coming around the front. Bathing is very exaggerated in this bird. he lifts his head way out of the water, then plunges it down hard. Dock at 5 PM.

1965

Bill Arvey Journal

Oct 25. - Sunday - Marin Co., RCA transmitting station at Point Reyes. Day very warm and bright. As 6 of us walk back through ~~the~~ cypress grove, which lines ~~the~~ dirt road on both sides, ~~back~~ to the main road. We stop to watch a flock of juncos. They are on the ground feeding at the edge of ~~the~~ roadway. Out of the flock of Junco oreganus are observed 2 individuals which are very much more grey than the others. The greyest one has a triangular rufous-chestnut patch on the back, set off from the gray of the sides and belly. A dark patch passes from the eye to the bill. The other junco is slightly less distinct, but still separable from the Oregon juncos. These two gray ones are agreed by the party, i.e. Steve McClean, R.D. Sage, James Lynch and myself to be Junco caniceps, the gray-headed junco, which thus constitutes an unusual record for this locality. The time is about 2 PM. As I go to the car for a collecting gun, the birds are scared off by a car and do not return.

Bill Arvey Journal 1965

Nov. 18

Thurs. Peter Ames & I start at 10 AM for Dillon Beach in Marin Co. Day with scattered rain clouds. It has been raining regularly for about a week previously, this is about the clearest day in that amount of time. At Dillon Beach we have to cross the Lawson property down to a boat landing. At the landing we start down the beach toward Tomales Bay. Along here are seen large numbers of Snowy Plover running along the upper tide flats. A few of these are collected. On the water line many Sanderlings and Dunlin, and a few W. Sandpiper are seen. Godwits, Marbled, ~~Red~~ and Black bellied Plover are seen in bunches of a few individuals. In the grass behind the bay are hundreds of Coot and many more can be seen in the water. Scoters and Buddy duck double offshore. Cormorants can be seen far out. Willets are seen.

1966

Bill Arvey Journal

Feb 2. San Francisco Co., Calif. Parking lot below toll plaza at Golden Gate Bridge. While waiting for Rick Tenaga I count Cormorants. (Brandts probably) Counting only those entering the bay. From 8:50 to 9:00 AM 150 Cormorants counted.

Meet Tenaga at 9 AM.

We go across the bridge and stop at the turnout on the other side. Here we see 15-20 Pelagics roosting in an isolated rock just offshore. We also saw a large concentration of birds in the water just off the ^{NW} ~~SW~~ Side of Angel Island. We then proceeded to Bodega. Just past the gate to the Marine Lab we could see 12 red tails hovering over the headland S of the lab all in the air at once. The breeze was stiff. We then walked N of the station along the rocky headland to where the cormorants ^{were} nesting last summer. Along the way we stopped to watch mixed flocks of Surfbirds and Black turnstones. Estimate about 20-30. 3 Willets seen here also. Surfbirds have obvious yellow feet, breast is more speckled with gray than is the more uniform color of the turnstone breast. Turnstones have reddish legs, darker color, a white patch on the back besides just on the tail & wings, and the tail feathers are tipped with white. No interactions were noted between the two species, and they seemed to travel together. Would be interesting to study the foraging of the two. Surfbirds at least seem rather dove-like in their pedantic pickups & general body shape.

1966

Journal Bill Arvey

Feb 2

At the pelagic cormorant nesting site, we saw 4 pelagics roosting on the S. shoulder of the cavern like arrays. They flew off on our arrival and only one or 2 had white flank patches. White patches were first seen by me this year on Jan. 29 at Pt Lobos. Curiously the patch is not seen in any halfway stages on any individuals, but is developed when we see it. Why? No nest building has occurred here at all since last year and very few birds are present. They are perhaps fishing somewhere, but none can be seen as far out as my scope reaches. Possibly 5 cormorants can be seen offshore. On the whole headland, only about 10 cormorants are seen.

Several Oyster catchers were seen, up to about 7 on this $\frac{1}{2}$ mile of rocky shore. No evidence of pairing yet, 2, 3, or 4 seen together, whistling if we approached too closely. No spotted sandpipers seen here. Nothing seen offshore but a few gulls. Wind not too strong here, but steady. The ocean however is quite calm even for this wind. No whitecaps or choppy swells. We left for Pt. Reyes.

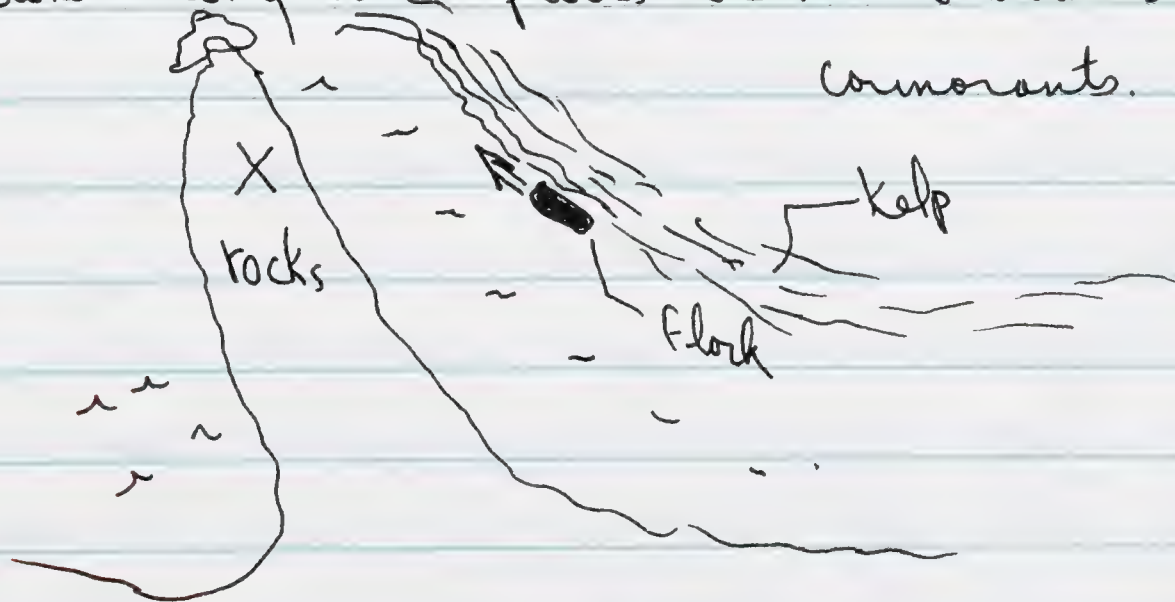
Pt. Reyes - Looking straight below lighthouse rocks we see several thousand Murres resting on a rock, and only a few cormorants. We then walked down the hill on the N. side and looked at the water below. Here we saw 15-20 common (black) scoters. They have orange bills, completely black body. females have ruddy duck face pattern.

1966

Bill Arvey Journal

Feb 13 Monterey Peninsula - 2 mi N of Town. ^(Monterey) Cormorant observations from a rocky point. Day clear, bright, warm.

A flock of 12 cormorants is seen offshore about 150 yds to the E. They are fishing on the shore side of the kelp which begins at this point. Their fishing behavior is thus: All birds are oriented in one direction, parallel to the line of kelp. The flock is quite close together, only 3 or 4 feet between birds. Simultaneously (within 5 seconds) all the birds dive. 2 dives are counted at about 37 seconds each. All the birds reappear at the surface some 20-25 feet from where they began, still together, and still oriented the same way. Presumably this is a method to drive the fish before the flock. Once, after several dives in one direction, the flock puts up from the water and flies 30-40 yards back along the line of kelp to a point from which they had presumably begun earlier. However diving in both directions along the kelp was seen. These are Brandt's





1966

Journal Biel Arvey

April 5

San Diego Co. Calif. Blattan and I started for Vallecito creek at 6:15 AM from Mann Ranch near oak grove. Just past Warner Springs on a fence post we see a Golden Eagle. As we stopped to watch he flew off across a wide grass plain. This bird showed a white subterminal patch in the tail, which marks immature birds. Otherwise it was all dark brown in color, with a massive blue-grey bill. The day was calm but he had no difficulty taking wing, and was soon out of sight on the rolling grassland. In this field also we saw many horned larks while driving along the highway and there must be a very large breeding population of these birds here.

We continued toward Warner Springs. We reached there at about 7:30 AM - air was about 75°C, cool for this spot. The desert is unusually lush this year here, all the annuals are blooming, ~~and~~ as well as most of the perennials. Ocotillo was in full swing as well as barrel cactus and prickly pears. We stopped in Warner Springs near the resort which had large groves of trees around and watched birds here. Many house finches were seen. One or two Phainopepla's were observed here also, appear to be quite common. Mourning doves were abundant and we heard them cooing often. Mockingbirds were seen and heard. Saw two gambel quail walking around the thickets and feeding. Saw one kingbird at the top of a tree - and white crowned sparrows were common. Saw a desert ^{callosaurus} ~~iguana~~ take off.

1946

Bill Arvey - Journal

April 5

One hummer was seen well enough to identify it as an Anna's, sat on a wire, then on an exposed twig of mesquite, probably a migrant. We continued on after this short stop to the SW on County Hwy 53 toward State Hwy 78 a bit west. On the way out of the valley we stopped to check out San Felipe Creek which runs into Borrego.

~~the~~ The canyon sides are filled with large boulders here and we saw a rock wren singing on one. Climbed down to the creek to look around. The water ran clear and cold and had algae and other aquatic plants, with a slight amount of peripheral bog formation around. Hyla regilla were caught from the stream, and thousands of small tadpoles were seen at the stream edges, hidden in the submerged grass or algae. A large frog was seen but not identified. We saw a female hummer - sp? catching insects here. We saw her for about 20 minutes and all during this time she foraged for the small flying insects which swarmed around over the water at about 15' up. House finches were common here. The hillside above the stream was covered with rocks and typical desert vegetation, many yuccas, cacti, etc. 2 desert Sparrows came down to the water while we were here from this hillside. They came down and flew over the water surface either as if wanting to bathe, or trying to catch insects near the surface.

Continuing on toward Vallejo we saw in a wide

1944

Journal
Bill Arvey

April 5 morning, sagebrush valley a buteo which was very light in primaries, body, and tail, but with some dark markings here also. This we called a rough-legged hawk. It was soon lost to view. At Palm Oasis in in Vallisulas the temperature was very warm, but there is a permanent water supply here and many birds. *Phainopepla* is the most abundant here, flying out to catch insects and back again. The sexes are colored similarly, but the ♀ is duller black, while the ♂ is glossy black, both show crests. The only song heard was sort of kingbird like chucking and whistling. The white in the wings is a very obvious marking in these, reminiscent of the mocking-bird pattern and perhaps performs the same function (startles insects?). We went fossil hunting with the LACW museum party up Tapiado wash, not much found but > 90°F in shade temperatures. Even the dry desert washes had vegetation. Ted Downs says it's a good, wet year.

1966
April 7

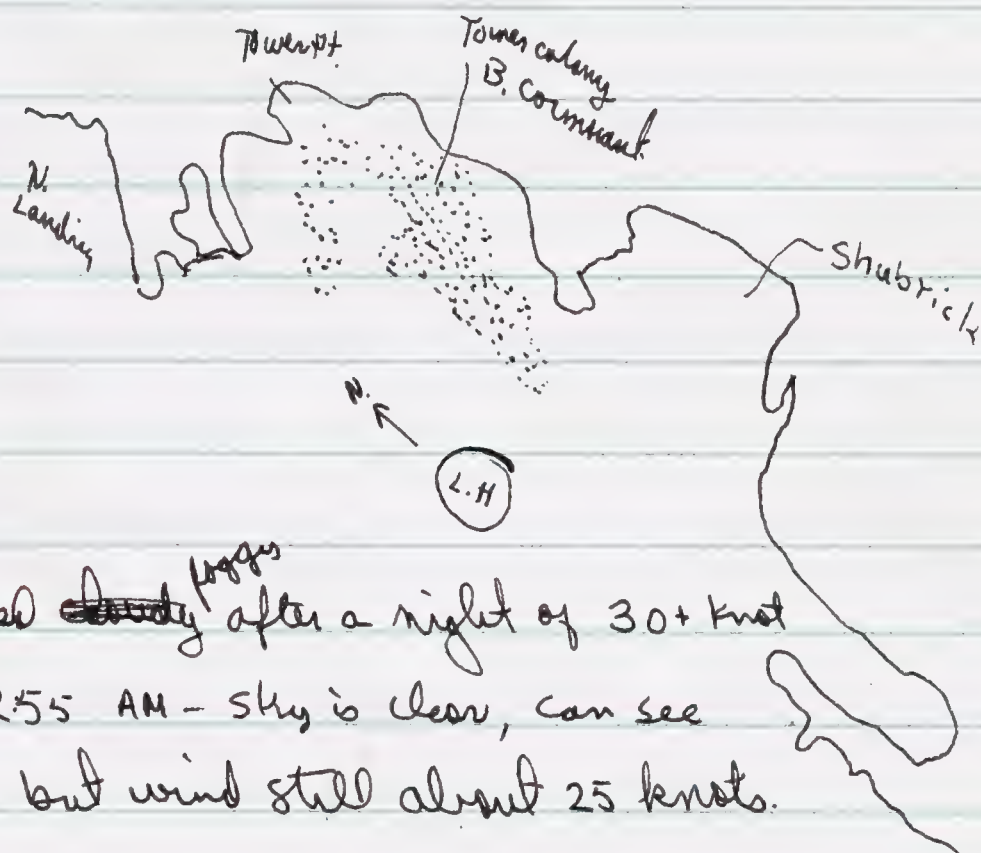
Journal Bill Arvey

San Diego Co., Mann Ranch. Starting from the Mann ranch, I walked south to where the fire break runs down to the valley. Walked up fire break for about 2 mi seeing and hearing Black Chinned sparrows, Calif. Thrasher, Bush Lits, Scrub Jays, 2 ravens, Bewicks wren. The fire break runs into a forest Service road about 2 miles up, which goes to Mt. Palomar and to Oak Grove. I go towards Mt Palomar. The day is extremely hot and dry, vegetation is all scrub, but with patches of Pines (digger) in some of the deeper swales. Gradual work into some Manzanita as I go higher, and further up, some Incense cedar, Blue Oaks (mostly dead) and big cone spruce(?). as I near the Palomar Look out I see 2 Swifts overhead, which are large and dark, probably Black Swifts which may be unusual here. There are two spots for water on the way up, one about 4 miles down from Lookout, another 1 mile. At the Lookout there is a 100 foot tower, and a residence, both closed. About 1 mile down the ridge is Palomar Obser.

Bird survey Journal 1966

June 19

Sunday June 19. - Farallon Island light house. I am observing the colony on the East Side of South Farallon from North Landing to Shubrick pt.



The day started ~~cloudy~~ ^{foggy} after a night of 30+ knot winds. at 12:55 AM - sky is clear, can see Tamalpais, but wind still about 25 knots. T^o about $60^{\circ}F$.

In the Tower colony of Brandt's Cormorants I can estimate the number pairs by assuming the area of nesting is roughly rectangular and counting the number of nests in the width and in the length by multiplication. I estimate 80×30 and 10×20 which equals about 2600 nests just on the tower Island colony. Many murres can be seen in the cormorant colony. Don't know what business they have here. Some seem localized around some of the more jumbled boulders and are probably incubating eggs here. Have not been able to spot any large fishing flocks near the island today - yesterday at about 4 PM saw one about $\frac{1}{2}$ mile SE of the East landing.



1966

Biel Arvey Journal

June 19, 1966

At about 6:30 or 7 PM we walked down near the rain catch, towards East Landing. Here is a "bachelor club" of maybe 2000 gulls. We collect some to observe sexes mainly. most we shot on its wing.

Coast Guard crew

DEAN O. HENSEL

STEVEN AA. WOODWARD (WOODY)

DONALD JANSON

BILLY GUTHRIE

RONALD CRAIG

(BUTCH) CHARLES O'NEILL



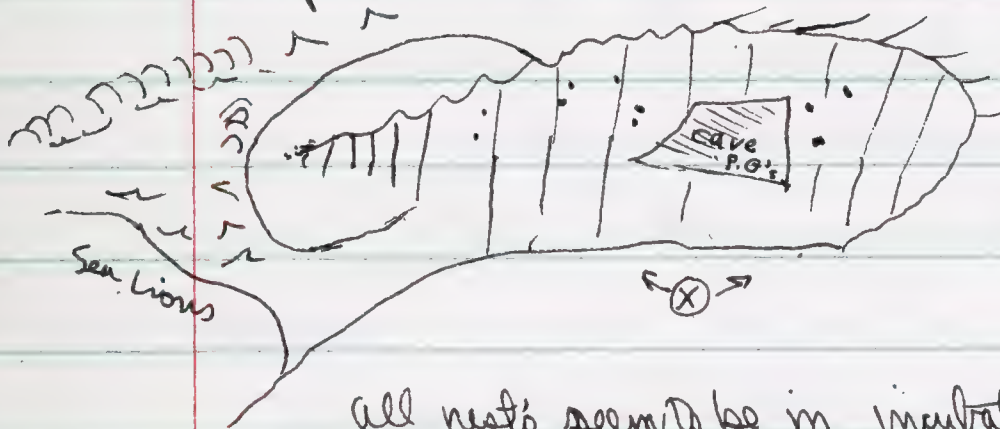
1966

Bill Arvey Journal

June 20

Monday. Farallon Island. Observations on about 10 pelagic C. nests in a small rocky cove between Aulon & Breaker Coves. We have draped a tarp over the rock wall, and set up a tripod & a center pole to make a blind. We are about 50 feet from the cliff face where the cormorants are nesting.

Diagram.



all nests seem to be in incubation stage.

Richard Tenaga banded several pelagic cormorants on the island in summer of 1965. There is one banded bird in this group, and is sitting on the exact same nest as last year. Both members of the pair were banded. Bands are red over pink on right leg.

1266

Bice Arvey Journal Farallon Is.

June 21

At 11 AM went to the rock piles where Sam Vitch studied petrels. He had several nest sites marked, all in rock piles. I looked in many of these spots and found a large proportion of the marked sites occupied with ash-colored petrels. Two had bands (may have been others too) which probably indicates that the petrels return to nest in the same burrows from year to year. All the observed birds except one were incubating single eggs, which were beige color, all the same, and very rounded at the ends. The birds showed flight when I peeked in the crevices and crept into the furthestmost crevices.

Two young Cassin's auklets were found during this trip. ^{Both} ~~the~~ were adult size and had adult feathers, but also had the remains of fluffy down on the back and breast.

The east side of S. Farallon Is. seems to be an especially suitable place for auklet burrows because the ground is covered with the holes.

June 21

Brandt Cormorant eggs

Collected on S. Farallon Is.

<u>Measurements</u>	<u>Length</u>	<u>width</u>
1.	60.2 mm	38.4
2.	66.8	39.3
3.	58.0	40.5
4.	64.5	38.3
5.	60.2	37.7
6.	57.1	38.4
7.	61.0	37.7
8.	63.2	36.7
9.	58.7	37.9

all eggs from different clutches.

weights - all 9 - 14 to 14½ oz.

1966

Bill Arvey Journal

June 23

Farallon I. Light house. 8:00 AM, clear, ocean calm, slight N wind blowing, visibility 25 miles.

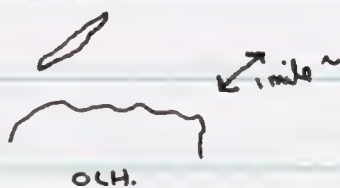
Cormorant activity seems relatively slight in all colonies. So far have seen very few birds fishing, and no concentrations have been seen.

Very few cormorants perched on Seal Island, but many Murres at its east end of its rock.

Lowest pt. colony. Many nests have 2 attendant cormorants present.

Tide is low now. at 8:30 AM.

8:40 AM - Have just spotted the main fishing area for this morning. It is about 1 Mile East of the Island generally. Small groups of cormorants were traced as they left the vicinity for the island.



Can see small groups fishing out there. Murre groups seem to be without gulls and several are seen. One tightly clustered pack of cormorants and gulls is seen. No other dense concentrations are seen however.

850- have just discovered where the main fishing activity is this morning. It is about $\frac{1}{2}$ mile due north, in a straight line between the Light house and North Farallon I.

1946

Bill Arvey Journal

June 23.

A very large dense flock of cormorants is ~~the~~ the water is actually disturbed so much by their activity that one can notice their presence without glasses just by the turpid condition of the water there.

Cormorants far outnumber gulls in this flock. Gull activity seems very slight around the flock.

8:55 It seems that a substantial part of the flock split off and started fishing in another direction. They flew off about 50 feet then put down again.

9:00 AM after watching the flock for awhile it seems to be true that there is a definite entrance and exit to the flock.

Entering birds always seem to go to the East end of the flock. The birds leaving do so from the West end, the part closest to the island. The flock seems to have drifted some $100 \pm$ yards to the SE since first observed and are now some to $200 \pm$ yards N of Arch rock.

9:15. Now many birds from the Tower Pt colony are traveling out to this flock. Have seen some groups of about 10 birds moving out thru the gap between Arch rock and sugarloaf and then on out to the flock.

Many cormorants are in fisherman bay

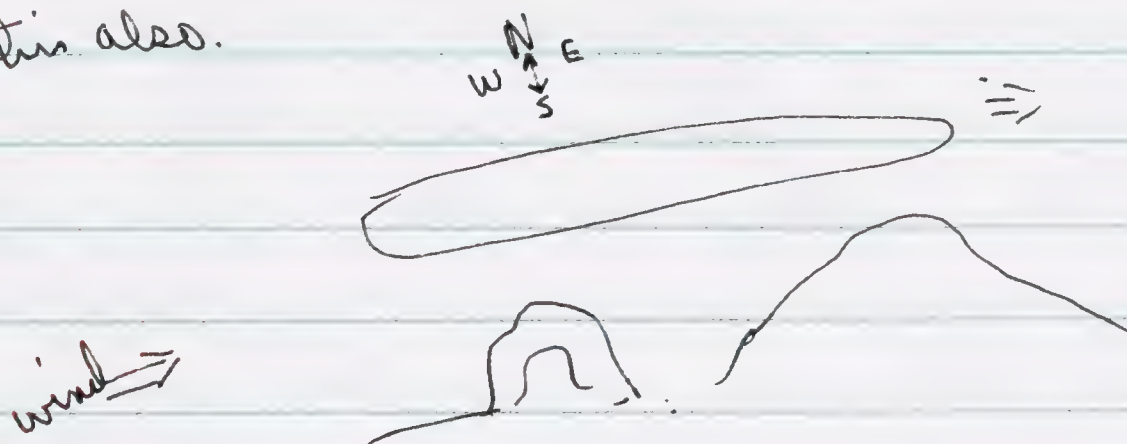
The flock is definitely moving East x South. It is now 150 yds off Arch rock, the head of the flock is between Arch and sugar loaf.

1966

Biel Arvey Journal

June 23

Can't tell whether the entrance-exit differences are due to the fact that entering birds enter at the moving head of the flock or not. Maybe all birds joining the flock go to its head, and gradually move toward the tail and then take off. ~~Of~~ Perhaps wind direction influences this also.



9:15 - Noticeable activity at the head of the flock, they are getting up and flying back to positions further W in the flock. Perhaps the fish changed direction? Exceptions ~~may~~ occurred to the entrance exit hypothesis, birds were getting up as others were putting down at the head of the flock.

9:20 - The main flock appears to be behind Sugarloaf now, but a moderate number has been isolated in Fishermans bay. Most of the arrivals are going to the Sugarloaf portion.

Just saw a V shaped cormorant flock of 25-30 birds heading around Sugarloaf from Fishermans bay, then putting down at the extreme W. end of the flock.

9:40 Direction change again. Many birds up from the Sugarloaf flock, moving NW about 100 yards

1964

Biel Arvey Journal

June 23

- most follow and the flock is reforming out there.

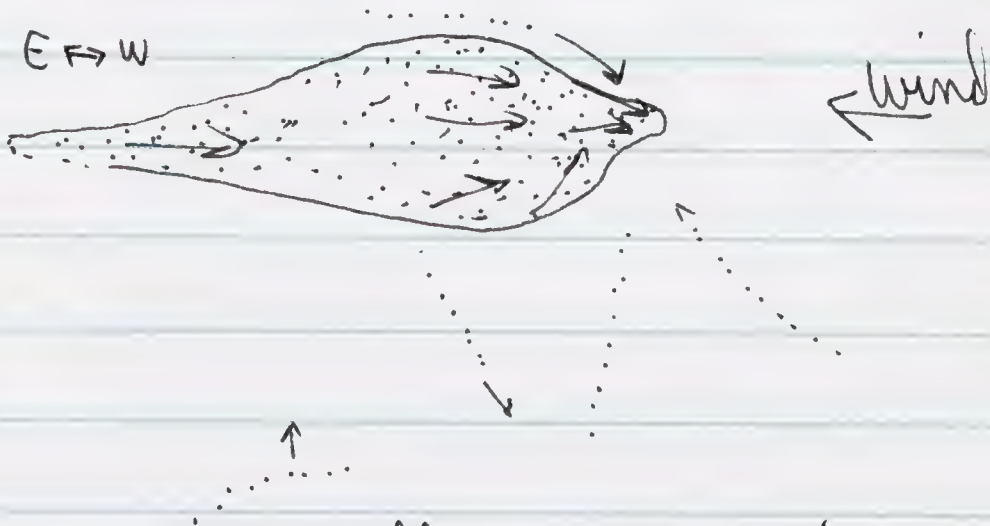
My impression is that the flock is nowhere as large as when first noticed. The flock itself has no particular shape to it, and is definitely not strung out in a front moving in one direction. 950 flock is moving back in the direction from which it came.

955 - a very active flock is spotted $1\frac{1}{2}$ SE of East Landing.

As I watch I can see probably over 1000 birds, mostly from West end colonies, moving out to it. It has a moderate number of very active birds now and is moving due W. Much movement within the flock, and probably ~~at~~ over 100 arriving per minute. Can watch long streams moving down the W. side of the stand & past seal rock. Birds can be seen headed out to them from both sides of the Island.

10:10 - Flock is very active now. Can almost be visibly seen moving en masse to the west can be seen with the naked eye. The front is moving very fast.

Shape: E \rightarrow W



There are thousands of birds in the flock and it is extremely dense. Seem to be general one way entrance and exit.

Birds are leaving from the W side, Enter from the E side some after traveling the whole length of the flock.



1966

Bill Arvey Journal

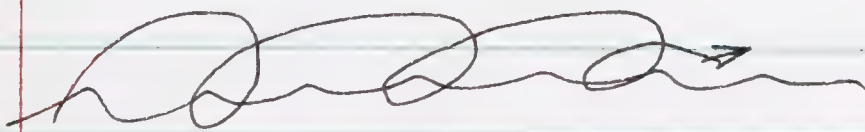
June 23

10:20

There now appear to be as many departures as arrivals.

Have counted approx 200 arrivals/minute.

At 10:30 - a fishing boat approaches the flock from the East. The birds put up gradually. at 10:30 I count 400/min passing Seal rock. Some of the flock seems to flee toward the island but others are moving out ahead of the boats so the flock has not completely disintegrated. The head of the flock is moving very rapidly now to the W. keeping 300 yds ahead of the boats. Large streams of birds are still going out but the flock is not as large as formerly. Seems to be a rolling movement now.



The flock has now turned its front Northward, probably in response to the boat.

Biel Arvey Journal

1966 Janaga Banding Records 1965 of Pelagic Cormorants

Date	Fish & Wildlife band No	Color bands		age	sex	Location	
		right leg	left leg				
July 22	597-29801	red	-	N		A-3	
"	2		red	N		A-3	
"	3	Pink	-	N		A-3	10 at A.
"	4		Pink	N		A-10	3 at B
"	5	yellow	-	N		A-10	6 at C
"	6		yellow	A	♂	A-10	
"	7	orange	-	A	♂	A-8	
	8		orange	A	♀	A-7	
	9						
	10						
23 July	11	red/blue	-	A	♂	A-3	
24 July	12		Pink/red	A		B-2	
"	13	red/yellow	-	A		B-6	
	14		yellow/red	A	♀	A-3	
	15	yellow/red	-	A		B-4	
	16		red/yellow	A		A-2	
25 July	17	red/pink	-	A		A-10	
"	18	-	red/pink	A		A-4	
"	19	orange/yellow	-	A		A-4	
"	20		orange/yellow	A		A-5	
"	21	yellow/orange	-	A		C-2	
"	22		yellow/orange	A		C-4	
"	23	orange/pink	-	A		C-5	
"	24	-	orange/pink	A		C-3	

1966

Bill Avey Journal

Rich Tenaga Pelagic C. banding 1965 cont'd.

Date	fish & wild. Band No	color bands rt leg	left leg	age	sex	location
July 25	597-29826		Pink orange	A		C-6

Return Data 1966

Band combinations	1965 Banded at:	Recorded 1966 at:
Red Pink rt. leg (♀)	A-10	A-10
Yellow orange rt. leg (♂)	C-2	C-2
Red yellow rt. leg (♀)	B-6	B-2
Yellow red rt. leg (♂)	B-4	B-4
Red yellow left leg (♂)	A-2	C-2

4 mated Pairs banded 3 at A, 1 at C. None remated.

1966

Bird survey Journal

June 24 - Rich Tenaga & I went up to the W. Side of Shulcruck to a Murre group of about 14, fewer eggs. 2 chicks had hatched recently. They flew off at our close approach. Rich replaced 2 normal eggs with blown, brightly colored, (1 red, 1 white). The birds circled as we did this. We left. Time 11 AM.

1966

Bill Arvey - Journal

July 16 - Got up at 3:30 AM in Orinda, ate, then started to Sagehen Creek, Nevada Co., Calif. Arrived at 7:30 AM. Stopped to talk to Dr. Leopold who had just gotten up, at his tent frame.

The purpose of the trip is to try to determine whether or not Vaux Swifts are nesting in the Sagehen Creek area. Gene Christman shot about 4 in June and found enlarged ovaries, ruptured follicles, enlarged subvarus which is evidence that breeding does occur here, but definite data should be attained.

Nothing was flying over Kilm Meadow, so James Lynch and I hike up the stream towards Carpenter Ridge for a mile or two. Above Kilm Meadow are some aspens and alders growing along the creek. Beaver work continues as far up as we went.

At one spot, amidst a streamside thicket of alder, aspen, fir, and pines we squeaked in the following, 2 Macmillan Warblers, 2 Wilson warblers, a yellow warbler, 2 Nashville warblers and 2 Hermit warblers. No

young were noticed among them. Others such as juncos all seemed to have fledged, or near fledged young with them. 3 groups of Mountain quail were seen up farther in Brush-Pine hillsides. One group had young flightless chicks which became separated from the parents. We captured one such by

1966

July 6

Biel Avey Journal

running him down, but he escaped while we ate lunch. The young chicks are remarkably well camouflaged and use this to good advantage by hiding.

An Empidonax was found sitting on a nest and one egg at Kiln meadow. It was situated about 1 foot over the water in some dry willow branches. The nest contains some human artefact such as bits of paper, cloth, and thread.

1941

Bill Arvey - Journal

1

Sept 24

Labour day wk end. Bryant property, in Trinity Wilderness area, Trinity Co Calif. - Approx 15 miles SW of Callahan Calif. Approx 6300 ft \pm 500 feet. The area is on a S facing slope which falls into Jangle Blue Canyon. The slope is about 20° . A small creek falls down the gorges from Mosquito Lake, Marsh Lake, etc to Jangle Blue Canyon. The area is forested in Cedar, Yellow, Lodgepole Sugar, and White Pines, Douglas fir farther down, and white fir. It appears to have been logged once leaving large cedars, but some very large yellow and Sugar pines remain. In the clearing is much Buckleberry, oak, some Manzanita. We went out hunting at about 830 AM, collected, 1 creeper, 2 hermit warblers, 1 dusky grouse, and 1 junco. We have seen in this area Nashville warblers, Audubons Warbler, Black throated grey, flickers, Hairy Woodpecker, white-headed Wps, Green-tailed Towhees.

went up to Mosquito Lake this PM. Jim shot 2 fox sparrows, 1 junco? imm., 2 warblers, —
As I climbed rocky Mts beyond the lake, saw rock wren, 1 Marsh-hawk flying very high, 1 redtail

Monday, September 12, 1966

Jim Lynch, Jim and Barrie Blattau, Marty, Catherine

Abbotts Lagoon in Sonoma Co.: flushed up an owl by the outside gate, the size of a burrowing owl; it flew off about 100 yds. to the south, lit down again in tall lupin where we couldn't see it; we flushed it up again, it flew and lit again. Fairly sure it was a burrowing owl, too big for a screech owl, too small for anything like a spotted owl. It was brownish. Although we didn't see it very plainly, we assume that's what it was. We came back to the gate and there were pellets by the fence-post that had lots of insect exoskeletons around that makes it look as if that bird was using the fencepost as a perch and feeding there. There are thousands of grasshoppers around; the vegetation is quite dry now; also yellowjackets; the are all dried up; the lupin is fairly dry and low, etc. Assume he was eating the grasshoppers. Also there was a dead Savannah Sparrow under a log there among other things. The head was cut off, looked like the owl had killed the bird and stored it under there temporarily. Under some of the logs alligator lizards were found; Jim Lynch collected about 5 of them.

At Lagoon itself: bird life doesn't look too abundant, not like last year. But there are some ducks on the east side at least, and on the west side there are some ducks and probably some gulls roosting there. We've seen numerous avocets already on this one side, along with some drab looking ducks which we haven't yet identified. We'll walk around to see. We've seen some godwits and possibly curlew around there. Out over the Lagoon itself we saw a falcon-sized bird; it was flying up and down, down near the water and back up in sort of a rolling; reminded me of a

Marsh Hawk, but I'm pretty sure it wasn't a Marsh Hawk since there was no white on the upper part of the tail. It may have been a Peregrine Falcon. Also a large raptor was seen on the west side of the Lagoon, way over on the other side, low over the sand dunes; it was too big for a red tail, didn't fly like a vulture and we assume it was probably a Golden Eagle. We'll check that out too--hope! Not many ducks down in the water, cormorants or anything like last year. There's some ^{old} foam washed up on the shore. No phalaropes yet. See some ~~small~~ *small* *flowering*?

that are still flowering down by the shore of the Lagoon. A wild strawberry (with a yellow flower on it. Saw a purple clover also flowering. A few scattered poppies that still have flowers. Gentle wind from SW; sky almost perfectly blue; warm. Marbled Godwit on the shore, flew east, tacking with the wind across to the other shore. A couple of ducks flew out which may be pintails, a white trailing edge on the wing, very drab looking; males are either in eclipse or they're not here.

A couple grebes far out, unable to identify. *(Hooded Merganser?)* Also what looks like a California Gull.

11 avocets along the shore, probably conservative, flew up and off. ~~30~~ Swallows

buzzing over the water. Jim saw a Sparrow Hawk above a bluff about 50 yds. from the water. Several godwits on the other side. Horrible green sludge on this drainage pond from the farm adjacent to the Lagoon, unable to identify, smells bad, green-blue, thick. A board thrown on it won't go beneath the scum. A flock of 8 ducks flew out over the Lagoon, look like pintails but they're all the same color, very plain. About 10 "peep" on a side pond off the Lagoon, feeding around

fence here down near the water for quite a ways. On the other side it appears there's no real good shore bird habitat because the rocks come right down. ^{unfenced area} A small covey of ruddy ducks offshore about 50 yards. A Black Phoebe about 25 yds. from the shore on a big log. Along east side ^{Post} along the fence there are some areas where the grass comes down, cow pies all over it. No birds where rocks go to shore, no foam here, looks like waves are being blown to the west side almost completely by the wind. A black turnstone by ^a the shoulder, standing on one leg; legs are dark, not real pink like the Ruddy's. There seem to be lots of Ruddys ^{Ducks} out in the middle. Above the Lagoon, a Savannah Sparrow and a Song Sparrow. Vegetation is long grass, low baccharis, ferns, low blackberry, and other dried up plants, a flowering composite, like a dandelion, saw 2 with ^{flowered beetles, Meloidae} in them. The wind kicked up a little, can see definite parallel wind lines all the way across the Lagoon and whitecaps. Baccharis is flowering. All the plants ^{baccharis} aren't flowering. On cliff above the water almost to the west end looking across on the sandy shore, there were a lot of pintails, a couple widgeon in the water, 1 ruddy duck up on the shore, real nice cinnamon red color. There are some avocets on this end too, 1 or 2. Some other small shore birds, can't identify, probably willets and godwits. 5 Brown Pelicans soaring over the middle. Around the cliff at the far western point, there's another lagoon that almost connects with it off to the east and in the far distance a farm house. I think I've seen this from the road. A little trickle of water runs from the upper to the lower one, separated

by about 50 yds., never noticed it before, would be a good place to come later, not as many birds around as on the other one. A beautiful sanddune on the seaward slope above it. On top of the sand dune, about 100-150 ft. tall, there are several violet-green swallows sunning themselves, flying around and landing in the sun. Fantastically nice dune here with fine, ~~sorted~~ sand, wind marks and ripples, almost no footprints. A lot of things still flowering up on the sand. Kildeer flew away. About 25 birds on a sand spit, mostly godwits, 2 avocets, dowitchers, willet, kildeers joined them, 2 more avocets. Warm even though it's breezy, can see heat waves rising from the sand. Near the tide channel on west side of Lagoon, 1 sanderling in the company of a willet. A couple of pelicans (brown) from the seaside on to the Lagoon side, gliding about 30 ft. up over the water. A raft of maybe 30 gulls about 50 yds. offshore. A Snowy Plover flew down to the ~~lagoon~~ shore. It seems that most everything is here except phalaropes but not in very big numbers like they were last year. The raft appears to be Heermann's gulls, maybe immatures, too; seem to be gulls for a long ways out, surely over 100, very tight raft. 100 yds downshore from the tidal wash is a tight pack of gulls, maybe 100, Westerns and Heermann's. Shearwaters offshore, 4 pelicans flew by. Beautiful day, a few high clouds to the north. Surf is choppy, whitecaps. Can see Pt. Reyes to the left. Not many storms recently, not much debris washed up on the beach. Back in the Lagoon 2 Black Brants sitting on a sandspit with a couple avocets and beyond a raft of many coots. Black-bellied (?) Plover also on the sandspit. Identified definitely when flew, appeared to be molting.

Lagoon is quite full, duck blinds are almost under water. A kingfisher dove in the water when we first stepped out of the car, caught a fish. A Marsh Hawk about 300 yds. towards the ranch from the car, maybe that's what we thought was an eagle. Flying low, typical Marsh Hawk, female. Back at the car at 2:45. White-tailed kite near outer gate, flying 50' up or so. First one I've seen out here.

RCA cypress grove: flushed up 2 barn owls, forced them towards the end of the grove, caught up with them, flushed them out in the open, they flew back towards the road head. One appeared alot smaller than the other. Also saw Black Phoebe and Loggerhead Shrike.

Sooner Bay: Great Blue Heron, some more avocets and peeps. Not a very high density of birds. Tide flats are exposed now.

London is a very tall, narrow city with
many narrow streets. It is a very old
city and has many famous buildings.
The River Thames flows through the
city and is very important. It is
the longest river in England. The
city is very busy and has many
shops and restaurants. It is a
very important city and has many
famous people who live there.
The city is very old and has many
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Monterey Bay, Calif.

Bird Survey, Journal

Oct. 23, 1966

October 23, 1966. Monterey harbor on board the Tager at approximately 9 a.m. Beautiful warm day. While here we've been watching such things as Brown Pelicans and Heermann's Gulls which are quite abundant, especially

At the mooring we've actually seen Brandt's Cormorants that are diving in the shallow ~~marine~~ area here. Elegant Terns are quite abundant also, as well as Western Gulls, some California Gulls, and Ring-billed Gulls that we saw on the beach side. On our way at 9:45, moving out of Monterey harbor. Hardly any swell, no chop at all, and we've been watching lots and lots of Heermann's Gulls, immatures and adults. There were a lot of sea lions in the breakwater as we left the harbor. We've seen a few cormorants, mostly Brandt's from what I can tell. I can't see any orange patch that the double-crest would have. We can see fairly clearly that most of these are Brandt's Cormorants. We're moving sort of SW out of the harbor. We saw a Heermann's Gull right in the harbor itself before we left the breakwater. It had white wing patches near the ~~carpal-ula flexure~~ that made it look sort of like a scua.

Ring-billed Gull just flew over. We're now moving by a big raft of 150-300 birds, gulls of all ages, first-year, second-year, and third-year. They

Monterrey Bay, Calif.

Bill Arvey, Journal

seem to be mostly Ring-billed and California Gulls.

~~Seem to be mostly Ring-billed and California Gulls.~~

~~of this trip.~~ Briefly however, the following were positively identified today. Fulmar - almost all in dark phase, Pale-footed shearwaters ~~abundant~~ 2 or 3; Pink footed Shearwater abundant, Spotted Shearwater very abundant, Black petrel & Ashy petrels abundant; reports of 1 Leach petrel seen, not verified by me, Rhinoceros auklet, Cassin auklet both common, Murres less common; Bonaparte Gull uncommon, Herring & Western Gulls common, Several Scaups seen, Pomarine & parasitic for sure.

Very few Cormorants seen the entire day. Red phalaropes were very abundant. A Skua was seen from afar but fairly definitely. A good concentration of birds was hit ~~was~~ towards the Santa Cruz side where good concentrations of most species were seen.

Vista Pt., Marin Co., Calif.

Bill Arvey Journal

[From Tape]

(1)

Marin Co., Calif.

Nov. 4, 1966

November 4, 1966. At Vista Pt. about $\frac{1}{4}$ mi. north of Golden Gate Bridge. I'm looking down into the Bay at this bottleneck point to see what the cormorant activity might be today. The day is fairly cool, but the sun is out; a slight breeze is blowing. The air temperature is maybe 60°.

A real thick haze is covering everything and ^{one} ~~you~~ can't even see S.F. clearly.

Looking at the rocks directly below the bridge here, where I saw so many cormorants last summer, I ^{now} see only a couple. And I don't see too many moving in and out of the Bay. Watching the tide-- it appears to be coming in right now. Don't know exactly what stage it's in but the surge seems to be coming in from the Gate. The military installation is right below us here. Went through Ft. Baker and am now below Vista Pt., found this rock with about 3 cormorants on it, possibly Pelagics but I can't tell for sure. Whitewash on the rock now; probably some gulls ^(or cormorants?) nested out there. There's a definite surge into the Bay; I can see the water rushing in; quite rapid, too.

About 300 yds. offshore is a flock of approximately 45 Western Grebes on the water, most of them swimming towards the Gate with their heads up. They don't seem to be diving and fishing. And on the small rock here that I mentioned before, I can

Below Vista Pt., Marin Co., Calif.
Bill Arvey Journal

(2)

Nov 4, 1966

see 3 cormorants; 2 of them appear to be Brandts but I'm not positive. They have a yellowish cast on the gular pouch which is probably a nonbreeding Brandts; doesn't appear to be bare like the Double Crest. And the one Pelagic on the rock can definitely be determined because of the more slender bill. A Brandts Cormorant also has put down about 50 yds. from the rock out in the channel. I think I'll start to count cormorants as I see them.

1:45: I've been here about 10 min. So in order to get a measure of activity I'm going to leave my binoculars in one position for a no. of min. ^(5 minutes) which I'll record and speak into the microphone as to how many cormorants are flying in which direction in the Bay. That way I hope to get a count, a rough measure of activity at this time.

1:50: during a 5 min. observation period saw 14 cormorants moving out of the Bay, all on the north side of the channel, in fact, fairly close to this side.

Watched the carrier, Enterprise, move into the Bay.

2:10: another 5 min. observation: Out--5; In--2.

There are now about 5 more cormorants on the main rock here, the very sheer part; they're Pelagic Cormorants, look very dull as if they're first year birds, but I can't tell. After rechecking

Belvoir Vista Pt., Marin Co., Calif.

Bill Arvey Journal

(3)

Nov. 4, 1966

the group of 5 cormorants, I've come to the conclusion that ~~the one above~~ the ones below are Pelagics, but the other 3 are Brandts. A good way to tell the Pelagics is the shape of the bill. The bill on the Pelagic is narrow all the way into the head, doesn't get thicker as it gets near the base, whereas the Brandts seems to get thicker and change the shape of the head near the base. More cormorants have landed in the meantime, and there are at least 10-12 cormorants on this rock, and most of them are Brandts, I believe. One has a very nice yellow throat patch that appeared to be feathered, not naked, so that would indicate a Double Crest. Just watched a cormorant leave the rock, fly out about 300 yds., put down in the water. Just made a beautiful landing up on the rock--he flew in, glided, put his legs down, sort of popped right on this narrow little ledge. A young Brandts. Haven't seen any wings spread yet, but it wouldn't surprise me if one of these would do it. The one that just landed is displaying and is displaying a beautiful blue patch which is unusual for this time of year. He did this just after he landed. Now the patch deflates. This shows that this display can take place any time of year but is more intense as the breeding season approaches.

2:30: another 5-min. count: Out--12; In--

Below Vista Pt., Marin Co., Calif.

Bill Arvey, Journal

(4)

Nov. 4, 1966

It's 2:58 and I just took a walk out to the point; It's called the Lime Point, a Coast Guard station. It looks like it's unmanned, but there are some people fishing off the point. Had to cross a chain-link fence to get out there.

3:00: another 5-min. count: Out--19; In--1.

The current still seems to be moving in the Bay, but not quite as fast as it was at about 2:00.

This means in relation to the tide schedule, I'm not sure, but I 'm sure the tide was moving in before at least when the water was moving in the Gate so rapidly.

^{seems to}
Cormorants ~~always~~ bring things to the surface before they eat them; I watched one do that today.

I'll time the cormorants' dives; there's a group close to the rock that I can watch fairly efficiently, I think.

There's a good character about the head shape that I mentioned before. I think it'll work between the Brandts and the Pelagic. I'm watching one on the surface which appears to be a Brandts, facing S.F., looking out towards the Gate, around, dove. He's right at the edge of the calm and the more rough water it seems like. Maybe it's an eddy from the side of the rock here. We'll see where he comes up. He dove towards the interior of the Bay, facing towards Berkeley. Possibly he'll be

Below Vista Pt., Marin Co., Calif.

(5)

Bill Arvey Journal

Nov. 4, 1966

~~be~~ within range when he comes up so I can see how he's oriented. He's up after 46 seconds, facing Berkeley again; he appears not to have anything. He's looking around, around, still facing towards Berkeley, dove/ after 29 seconds on the surface. See several groups of cormorants flying out of the Bay now; perhaps there's a diurnal pattern of movements in and out of the Bay which I hope I can detect tonight. There's a Western Gull out there by another cormorant that just dove, looking for a handout no doubt. The cormorant I'm timing just came up after 55 seconds, nothing in his bill. He hadn't travelled more than 15 or 20 ft. from where he went down, so possibly it's a more vertical dive than a horizontal dive. I'm almost sure that's what it is. Dove again after 28 seconds on the surface. The cormorant that was around the gull came up and the gull hasn't made any move to travel over to him, so apparently he's not actively mooching right now. See a lot of cormorant activity out further now. Several groups of cormorants out there. I missed the end of the cormorant's dive. I'll watch the cormorant near the gull; he's approximately 20 ft. from the gull; a Brandts. He's moving away from the gull, dove. He came up with a fish after 58 seconds. Just dove right in front of the gull after 10 seconds on the surface. He's up again.

Below-Vista Pt., Marin Co., Calif.

(46)

Bill Arvey Journal

Nov. 9, 1966

after only 5 seconds. There are 2 gulls surrounding him out there, they're calling. Looks like he came up with a fish then dove right away.

Possibly it was another cormorant. Now he's up again about 13 seconds after he surfaced the last time. He's between the 2 gulls again, nothing in his bill. He dove again between them after 7 sec.

I don't know how to interpret that last thing. He's up after 27 sec. and down in 3 sec. I can't keep this up because I can't keep them straight.

The grebes are still out there; they've been sitting the same way since I got here. There seems to be no diving activity at all among them. They're all resting, preening, looking around.

There's a Pelagic out there now;

maybe I can get some observations on him. He looks like he just came off of the rock into the water. He's swimming back towards the rock, paddling on the surface, out of sight.

Some of the grebes are diving now; I can see them leaving the surface with a quick characteristic wing beat and they just disappear under the surface. like an Alcid I guess.

3:31 $\frac{1}{2}$: another count. The water still appears to be moving in the Golden Gate. I don't know how much this means; this could be just flowing over the denser more saline layers. Water may

Below Vista Pt., Marin Co., Calif.
Bill Arvey Journal

(7)

Nov. 4, 1966

also be moving out. In: 2; Out: 11.

On that rock now I can see one Pelagic Cormorant for sure; the rest, maybe 8 or 9, Brandts.

A Brandts just dove right offshore here. They have a different type of dive when they're in close and not going to go deep; they just sort of push forward, instead of arching high out of the water and then straight down, they leave the surface on a shallow angle.

There are some Bonaparte's Gulls out in front of this big rock; ^{also} A couple of Arctic Loons. The Bonaparte's Gulls seem to be following the Loons. They fly up off the water and then flew ~~to~~ where the loons are when they come up. I've seen this 2 or 3 times now.

The fog is rolling in now, seems to be coming in ~~right~~ through the Gate. I can see it over the Golden Gate Bridge. It's not too thick but it's noticeable.

A Black Phoebe just flew down to the pebbles near the shore then back up into the bushes.

What is possibly a 1st year Pelagic hopped out of the water onto this smaller first rock here--there are 3 rocks, starting from me to the biggest one, there's a very small one that sticks out of the water about 4 ft., another medium sized one about 20 ft. high; then there's a giant one behind that

Below Vista Pt., Marin Co., Calif.

(8)

Bill Arvey Journal.

Nov. 4, 1946

maybe 50 ft. high, it's more massive--anyway the small Pelagic just jumped out onto this small rock. It's probably a first year because it had alot of brown feathers on the breast and undersides whereas the back has some of the typical irridescent green feathers, too. The pupil of the eye seems to be darker than the Brandts which has a definite bluish tinge. Can't see any color on the throat. Alot of the feathers on the body seem definitely wet.

Another 5-min. check: In--0; Out--14. The tide definitely seems to have lowered since I got here; some of the rocks are exposed down here that weren't before. (Located between shore and the big rock)

A cormorant went down right in front of me about 3 seconds ago; it should be easy to follow him.

Back up in 40 sec. Doesn't have anything to swallow. A Pelagic. Dove after 13 sec., a shallow dive again. Up in 30 sec. I guess it's a Brandt.

Down after 10 sec. Up in 28 sec. Down in 10 sec.

Up in 31 sec. Down in 12 sec. Up in 31 sec. Seems to be making a series of short, shallow dives.

Down in 12 sec. Hasn't caught anything yet.

Now he's by the closest rock that has the Pelagic Cormorant on it. Up in 30 sec. Down ^{after} 20 sec.

Up in 28 sec. He covered alot of distance; maybe he's moving laterally across the surface; 20 or 30

Below Vista Pt., Marin Co., Calif.

(9)

Bill Arvey Journal

Nov. 4, 1966

yds. that time. Maybe this is typical Brandt feeding pattern. Up in 38 sec. Here comes a bunch of fishermen with a bagful of fish. Down ~~in~~^{after} 13 sec. Up in 40 sec. Possibility of confusing 2 of them so I'll sign off.

4:25: the tide is definitely going down; the rocks are becoming more and more exposed in this place.

4:30: another 5-min. count: In: 3; Out: 16.

I count 13 cormorants that I can see perched on the main rock from where I am. There are probably many more on the other side but I can't see them from here.

One last check: In--2; Out--5.

Summary of 5 min. counts; Nov. 4

1:45 PM time	* in	* out
⁵⁰ 1:45 PM	0	14
2:10 PM	2	5
2:30 PM	0	12
3:00 PM	1	19
3:30 PM	2	11
4:00 PM	0	14
4:30 PM	3	16
~5 PM	2	5

Bill Arvey Journal
Marin Co., Calif. Below Vista Pt.

(1)

(From tape)

Nov. 6 1966

November 6, 1966. 7:25 a.m. at Ft. Baker opposite the rock where I related the last commentary. I'm out here to see what the cormorant activity is in the morning. Haven't started looking yet; I see cormorants and ^{other} things out on the water. Very windy, not very cold, but it's rainy, actively raining. I can see across ^{the channel} to San Francisco, so it's clear enough so that I should get some observations. A 5-minute count at 7:35 (in the same manner as on the last trip): Cormorants moving into the Bay--55; moving out of the Bay--5.

As I was making that last count I saw 5 cormorants ^(below Vista Pt.) leave the area of this rock; I'm pretty sure they came off this rock. They flew about a quarter of the way out into the channel, then plopped down in sort of a loose group. Then I think 3 of them got up and left and may have accounted for 3 of the ones that went out as I counted.

There seems to be a lot of activity this morning, much more than the other afternoon when I was here and it was better weather then, especially ^{more} movements in the Bay from outside the Gate.

When I arrived ~~there~~ approximately 4 cormorants visible on the rock, now 1 or 2 visible. Most must be off fishing.

7:45--a huge scene of approximately 60 cormorants entering the Bay, but I didn't see them pass the

Bill Arvey Journal
Marin Co., Calif. Below Vista Pt.

(2)

Nov. 6, 1966

Gate. I saw them about a mile in, going past Alcatraz Island from where I am ^{parked}. In fact most of the cormorants I see coming in disappear in the direction of Angel Island.

Watching a Snowy Egret. It's amazing. He's off-shore about 300 yds. and being chased by an immature, first-year gull. Now out over the water still being chased, can't tell where he's headed; the gull dropped out. He's going behind the rock, appeared at the other side keeping close to this shore. Must be having a terrible time fighting the wind. Now he's tacking out towards the middle, rounding the point out of view.

See a pair of Western Grebes out about 300 yds. here. Doesn't compare to the big flock I saw here last time. Saw what I believe to be a loon also, but he dove, haven't seen him come up yet.

At 7:57 a flock of 45 cormorants are moving out of the Bay in a long single line.

Make that 3 Western Grebes out there.

8:00 another 5-min. observation: into the Bay--41; out of the Bay--33. During observation another Egret left the Bay being chased by gulls.

Raining very steadily now and the wind is quite strong, in gusts. White caps out there; the water appears to be surging in the Bay.

8:17: very windy, very rainy. The wind seems

Bill Arvey Journal

Marin Co., Belvedere Pt.

(3)

Nov. 6, 1966

to be blowing straight at me, ie. north; can't see S.F. anymore; whitecaps on the Bay and conditions may get too bad.

8:30: another count: In--9; out--9.

A general observation I would make about cormorant movements now is that in the morning the cormorants tend to leave the roost to feed at probably the same time and for this reason form huge flocks. I've seen this on the way out to the Farallones and today and in other places. But later in the day as they're coming in or going back out to feed for a second time, the flocks aren't so uniform, not so big, not so often. Probably this is why we get patchy observation times where I see very many going in at one time or out; so I see large flocks because it's early in the morning and they're on their way to their first feeding period.

I noticed last time and now also that many of the cormorants are missing secondaries and are possibly molting at this time. Have to verify this on the skin collection.

8:57: about 100 yds. on the Bay side of the big rock here are a flock down in the water, appear to be upwards of 20 in a loose flock of Western Grebes.

8:58: an observation: In--5; Out--3.

Noticed a 2nd year Glaucous-winged Gull here.

In Sausalito parked in a small outlook looking at

Bill Arvey Journal
Bellevue Pt., Marin Co., Calif.

(4)

Nov. 6 1966

what I think is Tiburon. The waves are choppy; it's hard to see through this wire fence. There are some cormorants in the water, some cormorants that I can see. I saw one flying in the direction of Tiburon just a second ago, but I don't see any large flock. I could miss them across there; it's awfully rough, so I'll just have to leave it at that.

10:00 on the lee side of Pt. Molate, the whaling station, looking out over the Bay. It's very calm here, no chop at all, but raining and windy. I see no cormorants. There are some birds, probably gulls, coots and things down by the point, San Pablo fishing area.

Summary Nov 6 of Movements. - [5 minute counts]

time	* in	* out
7:35 AM	55	5
8:00 AM	41	33
8:30 AM	9	9
8:58 AM	5	3

Counts of large flocks:

7:45 AM - 60 in

7:57 AM - 45 out

Ft. Baker, beneath Golden Gate Bridge
Marin Co. Calif.

(1)

Nov. 11, 1966

November 11, 1966. Ft. Baker, the place where I related the last 2 observations. It's a very misty morning; the mist has just lifted or is just lifting, but when I first got here, there was a heavy mist and I had to keep the windshield wipers going. I think it'll get better in a little while.

6:55: I've spent the last $\frac{1}{2}$ hour driving around Ft. Cronkite and Ft. Barry on the other side where I was looking for a place to watch but didn't find any real good place although it looks promising over there. There aren't any off-limits places at all, so that I could probably work something out over there.

I'm looking at this rock, several cormorants perched on it, looks like most of the activity hasn't started yet. I see 16 on the rock right now. A few cormorants are flying; maybe the activity has started in the Bay. There goes a fishing boat out. I think it'll be a pretty good day all in all. The tide looks pretty low right now because these rocks are exposed that I mentioned a couple times ago as being exposed only at low tide. Must be crab season because people are going out to the end of this pier over here with crab nets.

7:01: make a count: In--4; Out--0.

Ft. Baker, beneath Golden Gate Bridge
Marin Co., Calif.

(2)

Nov. 11, 1966

Very slow; not much activity at all out here. Maybe the good number of birds that are left on the rocks over here are indicative of the way things are going in general for the cormorants now. It's low tide and they're not feeding. There are more cormorants on the rock now than at any time that I've been here.

I was just watching 2 pairs of Pelagic Cormorants up on the rock; they're going through some courtship or some mutual display which I can't quite figure out. There's a sort of a bowing with the head; one member of one pair would do sort of a choke display. He would bow the head, raise the tail, and extend the neck, and open his mouth.

What this means at this time of year I'm not sure. I don't know if it could be partly a sexual display or a strengthening the pair bond display. These 4 birds seem to be very close together, very intimately joined up here on the rock at least, so maybe it's just a manifestation of pair bond activity during the off season, or it could just be a low intensity sexual display. I haven't seen Pelagic displays before, but watching this the movements seem to be very much the same as Brandts Cormorants. For instance, the pulling of the neck and head back onto its back and thrusting forward seems to be a similar type of movement

Pt. Baker, beneath Golden Gate Bridge
Marin Co., Calif.

(3)

Nov. 11, 1966

although of course one would have to know what the sequence is and so on before you could judge. There are several cormorants on the rock; I'll try to get a relative number of Brandts to Pelagics. I'm watching a Brandts Cormorant that flew up on top of one of the higher parts of the rock where there aren't any others and I'm watching his movements. He's picked up a whole beakful of grasses and lichen as if gathering nest material. Very strange; I wonder what he's going to do with it. He's still picking it up in his beak. Maybe this is one of the ones that was displaying down there, and if so he might bring it back. One of the pairs that I mentioned as being Pelagic that were displaying on the rock I now think are Brandts.

I notice this fellow when he wants to go just a short distance on the rock, he'll take alternating short steps, but when he wants to go a little further and higher, he makes a hop thrusting with both legs. First he extended his neck, then he made a hop with both legs and flapped his wing once. Then he hopped a foot or 2. Off he flew, flying back in, gliding. He went around to the other side. I'll go around to see how many cormorants are on the other side of the rock.

7:30: just returned from the other side of the

St. Baker, beneath Golden Gate Bridge
Marin Co., Calif.

(5)

Nov. 11, 1964

very far he dipped into the water, went at an angle towards the water, swooped down and hit his tail on the water, then took off again, which is interesting because of the fairy tail that a cormorant had to get his tail wet before he could fly, and undoubtedly this is what he was doing, getting his tail wet. But of course all the latter-day scientists pooh-pooed this idea saying it's only because the cormorant has trouble getting airborne and therefore loses altitude before he gets up speed. I wouldn't say for sure but it looks like he dipped into the water on purpose, he didn't have to fly down there. Many of the others don't dip very much at all; they can get going right off the rock at the same time. This one looks like he dipped down and touched his tail on purpose.

It looks to me like all the cormorants on the rock this morning are Brandts. I haven't seen them all, but the ones that I've seen clearly have been Brandts.

7:55. Still hasn't really cleared up yet; there's a low misty cloud hanging over that keeps dropping a heavy precipitating mist on us. I see there are some clear skies to the south, but all in all it looks like it may continue to be misty for awhile.

8:00: another 5 min. observation: In--12; Out--1. A couple of observations on some gulls here. Somebody through out of their car what looks like spaghetti on a paper plate with some paper. A ~~group of~~ about 2 Western Gulls came in first, followed by about 3 others that are almost adult, and started eating this. The interesting thing is that there is a dominant bird here; he looks like a big male, much larger than the others, has a bit of brown splotching on his neck. He fends off the others from the food; he chases off all the other gulls except for one which appears to be his mate, looks like the smaller of the 2. There's no aggressive action against this one. Now a couple of immature gulls have come to try to partake and were driven off, too. He ate a big piece of paper with the foodstuff smeared on it.

There are a pair of Pelagic Cormorants on the rock

Pt. Baker, beneath Golden Gate Bridge
Marin Co., Calif.

(4)

Nov 11, 1966

rock; there are approximately 15-20 cormorants on the south or S.F. side of that rock that I can see, and I'm sure there are some on the corner that I can't see. So maybe upwards of 40 cormorants can roost here. Some of the Brandts are roosting on very narrow ledges, as opposed to the usual preference for wider ledge, and it seems possibly that there is some overlap here between preferences at least for roosting between the Pelagics and the Brandts. In the breeding season, of course, the one that prefers the flat, open area is the Brandts, whereas the narrow ledge nester is the Pelagic. In the last few minutes I've seen several of the cormorants fly out from the rock, wheel around about $\frac{1}{4}$ mi. off, and come back in. I don't know exactly what this means; maybe it's a warm up or something. From where I sit in the car now, there are 21 cormorants in view on this east side or left side of the rock.

7:36 $\frac{1}{2}$: a 5-min. observation: In--4; Out--1
The tide is coming in now because those rocks are underwater now, so it's raised about a foot in the $\frac{1}{2}$ hr. I've been here. Quite alot of pelican activity out today, not too many big scanes of cormorants, but I've seen 2 or 3 flights of pelicans, about 10 birds in each. Very interesting now; it looks like the tide is starting to rush in through the Gate, and I can see the line where the backwash is meeting the in-wash, so to speak, and out there in this moving water are pelicans that are diving like crazy, fishing, hovering, floating on the water, getting up and diving. I've seen this many times now, and there are lots of them out there. Also seems to be an abnormal number of gulls, too, that are working this incoming water, so possibly the incoming tide is bringing lots of food into the Bay, and this is what they're following and feeding on. I still have to look up the tide tables to see what high tide at the Gate is, but I'd bet it won't be long from now and I'd predict within a $\frac{1}{2}$ hr. we'll see alot of cormorant activity into the Bay. A couple of minutes ago I saw a cormorant leave the rock, (7:50) fly off to the east. Before he went

Ft. Baker, beneath Golden Gate Bridge
Marin Co., Calif., Bolinas Bay also

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here; I was watching one that looks like he's ready to take off, or wants to take off but now is preening again. That's the only pair that I can see definitely are Pelagics.

8:30: another 5 min. observation: In--2; Out--3. The 3 going out are heading way across the whole channel to a disturbance way over on the other side at least a mile away where you can see 20 or 30 gulls circling around and some commotion on the water itself, possibly a school of fish. This is a good commentary on cormorant eyesight--they saw this clear over from this side of the rock; they left from very close to the rock and have been travelling straight across. Now whether they got up and started to go just straight out and saw this disturbance, I don't know or whether they saw it and then took off, I can't be sure.

I'll leave now at 8:35 and drive over to Bolinas.
9:30 at Bolinas Bay on the east side maybe a $\frac{1}{4}$ of the way down; I don't know exactly where I am, but I'm opposite some pilings of an old pier that extend out into the water about 50 yds. On 2 of the pilings where the pier reached an end are 2 cormorants and a Herring Gull. The cormorants are Double Crests; the 2 on the post appear to be adults. There's also one swimming around in the water that looks possibly to be a 2nd or 3rd yr. It has alot more light underneath. Now one of the Double Crests is holding his wings out on the piling. One observation I've made already is that the shape of the head is different. It seems to be flatter and also the bill tends to hook more strongly at the end, the upper mandible tends to hook strongly downward. The yellow throat patch is very obvious, can be seen from the side, the base of the upper mandible has some of this orange color on it.

I see some pelicans out there and various other birds in the bay. About 300 yds. out in the bay I can see --here's a Double Crest right next to the car, just dove--3 White-winged Scoters and 5 Red-breasted Mergansers. I can see another cormorant quite a ways out on another piling. The bird that dove next to the car is a Common Loon, just losing its

Bolinás Bay, Marin Co., Calif.

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breeding plummage; it's beautiful--the breast is white right up to the neck.

I'll drive on past this place to see what there is here.

Just arrived at a new place approximately $\frac{3}{4}$ mi. east around the south side of Bolinás Bay and am now watching a group of about 50 Double-crested Cormorant all on pilings, on an old abandoned pier. Of course, the pier part is gone but the pilings are left. I'll be able to get some observations on these, I hope. They're all taking off now, every one of them is taking off to the southwest. Oh, what a shame! They were airborne very quickly right off those pilings. It'd be interesting to see how on a still day they can get airborne much faster than the Brandts. Now they're circling off to the north, northeast. There are some cormorants in the water out there that are looking at them. Some of them are wheeling back to the west, some still going east. The ones going east are making a big circle, still going east.

There is a flock of 9 about 20 yds. into the bay from the piling. Maybe I can get some observations if they care to perform. I guess I missed those before. Their heads are all pointed east; there are 5 out in front, 1 in the middle, then another loose group of 3 behind. I don't know if I spooked those others off or not; I don't see how I did because they were all very quiet here; just all of a sudden whoosh.

I see some Surf Scoters out there now; on the way over I saw a Snowy Egret, kingfisher, Pie-billed Grebes. There are some Horned Grebes out here, too, I think. I mentioned the Arctic Loon. There's a Golden-eye going by. So it's very birdy today. These cormorants still haven't dove; I don't know if they're fishing or just what. I see a huge flock of birds on the other side, I guess shore birds, maybe willets or avocets. A very big flock, I don't know what they're doing. White on the wings.

That was an impressive display of flight power of the Double crests off these pilings; they're no more than 4 ft. over the water, mostly about $2\frac{1}{2}$ ft.

Belinas Bay, Marin Co., Calif.

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They can take off and maintain level flight without dropping like the Brandts and Pelagics seem to do. I'm down another $\frac{3}{4}$ mile or so and I see out in the water a long line of cormorants, no more than 3 deep in any place--approximately 50 in this one string. They don't seem to be doing much; they aren't oriented at all the same way though they tend to be orienting east, paddling away from the shore. Maybe they'll form a fishing flock, I don't know. Nobody's going up or down. They are evenly well-spaced in this line which extends for 50 yds. or so. Very little clumping; there seems to be a good distance between all the individuals and they're in a definite line, front moving in one direction. I noticed when they were sitting on the pilings there were very few very dark birds, like an adult Brandts or something. They were a sort of washed-out black instead of a real glossy black that you find in the other 2 species. The predominance in the ones that I saw had a lot of light underneath and were probably young birds.

Humboldt Co., Nevada

July 28-30.

Arvey-Journal.

July 28

Lynch and I leave Berkeley at 4:30 PM, Mileage 28531 Arrive

Sagehen Creek Station, Nevada Co., Calif at ~ 8:30 PM. mileage 28727

July 29

Up at dawn. Drive w/ Lynch to burned census plots 2 mi. SE of Station. Jim ran a census while I collected birds. Worked through a more or less open burn area with scattered Ceanothus thickets. I shot one male green-tailed towhee out of a snag above the Chapparal. He was singing strongly. Another towhee was seen on the spot, probably his mate. Soon came upon a pair of Lazuli buntings in the Ceanothus. The male flitted back and forth in the trees - took 3 shots & missed all. The female was skulking around in bushes very near me where she no doubt had a nest, and decided not to collect them.

Saw: chipping sparrows, ♀ Williamson's Sapsucker, Flickers, 1 Great horned owl, red breasted nuthatches, Mountain chickadees, Creepers, Audubon Warbler (shot a ♀) (in fir tree) and Western Tanager

Left Sagehen at ~10 AM and drove to Winnemucca Nevada, then N. on Hwy 95 to Paradise Valley. Stopped at bar to ask directions and took dirt road N of town to Hinky Summit (^{7800'}~~6500-7000'~~) which is about 15 miles from town. On the way up we came upon a chuckar partridge with a covey of ± 25 half grown chicks - some could fly. Adult bird was loathe to fly but finally did so when James chased her w/ car. Then we travelled down the east side and stopped near a house a little distance from the summit. It was in an aspen grove where water formed a small stream and a bog on the hillside with skunk cabbage and gages and willows.



Humboldt Co. Nevada

July 28-30

Arvey-Journal

July 29.

Bird life looked very abundant here, but too close to people for collecting, so we got back in van and traveled down to Martin Creek Ranger Station where we took a left hand turn crossed a small ridge and dropped into the Lye Creek drainage. We stopped the car at the first spot where the creek crossed the road. We collected downstream from here. The stream itself is very small and shallow but support dense riparian growth of grasses, willows and alders. In some spots the alders are widely spaced w/ no underbrush. The trunks of some trees are quite large also (~2 ft diameter). (elev 6500-7000') We walked downstream, collecting, for about a mile. The canyon is steep and rocky w/ Artemisia and other arid type plants on the hillsides and even in the bottoms. There are no conifers here. collected. 1 white crown sparrow, 2 swallows, 2 warbling vireos, 2 grey headed juncos, 1 rufous hummer, 1 Fox sparrow, 1 Empidonax oberholseri, 1 house wren, 1 Tolmie warbler. We saw Robins, W. Tanager ♀, Song sparrows, Wilson warblers, Rufous sided towhee, Red shafted Flicker, Lazuli Buntings. Heard a chickadee (Black capped?) as we were leaving. On the road down to town from Hinkey Summit we got a Poor will on the road. First caught him in headlights and he flew off and reland a little ways on down the road. Could still see him though. Got out, walked a little ways toward him. He was fluttering and hopping around in road, pouncing on insects. Dropped w/ 4/10th 9.

July 30

Spent night at Martin Creek recreation area ~ 7 miles ENE of Paradise Valley. Larry Burns (Geology Dept. U.C.) and an Archaeology crew (Nevada Univ.) are camped here under some large cottonwood

Santa Rosa Mtns.

Humboldt Co., Nevada

July 28-30

Arvey Journal

July 30

Trees. Very dry and windy here. Martin Creek runs through here and it is fair sized but warm. (Saw hot springs upstream). Martin Creek heads in Santa Rosa Mtns. near the ranger station but winds down the back side (SW) and ends up on this side by coming through a narrow gap here. Got up early and hiked upstream, collecting, about $2\frac{1}{2}$ miles. Large Volcanic cliffs cap the hillsides here and form cliffs. The hillside leading up to them are covered with Artemisia. Upstream from camp $\sim \frac{1}{2}$ mile the canyon narrows drastically (a dam here) and one has to wade frequently. Here the stream vegetation is very sparse, scattered willows in places. Saw: Black billed Magpies, Ravens, Vultures, hawk sp, Canyon & Rock Wrens, Lazuli Bunting, Bullock's Orioles, Western Tanager, Lark Sparrows, Brewers Sparrows. Beyond the dam the canyon widens out a lot. Some low terraces are built up in places. Cattle are run here. The artemisia is quite lush and reaches 6-7 feet in places, and is widely spaced. Here we heard, stalked, and shot ² Sage thrashers which are very abundant here. Also got a Say, Phoebe, Lazuli Bunting, Bullock's Oriole, and Spotted Sandpiper. Saw a duck sp. in canyons. Came back to camp at 11~~45~~ AM. Quite hot 90+ here but breezy. At breakfast then went into town, where we met Harry a little while later. Went back up to Hinky st Summit and over to Lye Creek area. This time we went up stream, instead of down from where road crosses. Upstream the canyon bottom is wider than below and large stands of aspen spread over it. 2 or 3 smaller tributaries of Lye Creek begin in this area. Up about to the SW stands Granite Peak, $\sim 9700'$ and a ridge of lesser peaks. Snow still stands in some of the cirque areas. The snow patches are not very extensive (and this



1967

Santa Rosa Mtns
Humboldt Co. Nevada
July 28-30
Arvey Journal

July 30

has been a heavy snow year), so we doubt if rose finches will be found here. The riparian growth seems less dense than downstream with fewer willow thickets. The hillsides are dryer with bushes of Artemisia, Potentilla (?), Lupine, mints, and other flowers and grasses. Up higher in the creek bottoms we see the forest edge out into upland meadows. Bumble bees are common in the mint flowers. Near the stream we collect Junco caniceps, Hylocichla ustulata, Troglodytes troglodytes, Zonotrichia leucophrys, Empidonax. On hillside we collect Brewers Sparrow, and a Juvenile Empidonax. Birds noted are: Robins, Violet green Swallow, Mountain Bluebirds, Rufous Hummer, Flickers, Pine Siskins. We collected a Lark Sparrow on the way out, about 5 mi. N of Paradise Valley, off a fence post. Also got a loggerhead shrike in same area from a phone line.

Left Paradise Valley for Sagehen at about 6 PM., Arrived Sagehen at 12:30 AM. Slept til morning.

July 31

Back to Berkeley.

